



State of Washington
DEPARTMENT OF GENERAL ADMINISTRATION

Office of State Procurement

Rm. 201 General Administration Building, P.O. Box 41017 • Olympia, Washington 98504-1017 • (360) 902-7400

<http://www.ga.wa.gov>

Solicitation Amendment

IFB Reference #: 02709
Title: Various Cab & Chassis – including Hybrids
Amendment Number: 1
Date issued: 8/5/2009

The above referenced solicitation is amended as follows:

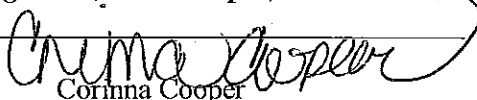
Purpose:	The purpose of Amendment No. 1 is to; 1) Extend the Bid Due Date to August 27, 2009.
	<u>This Amendment must be submitted with the bid. All other Terms, Conditions, and Specifications remain unchanged.</u>

Previously scheduled opening date and time

August 13, 2009 2:00pm, PST

New opening date and time

August 27, 2009 2:00pm, PST


Corinna Cooper

Signed (Procurement Coordinator)

8/5/2009

Date signed

Bidder must complete the following and return with bid:

Company:

Authorized Representative:

Signature

Date



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Solicitation Amendment

IFB Reference #: 02709
Title: Various Cab & Chassis – including Hybrids
Amendment Number: 2
Date issued: 8/19/2009

The above referenced solicitation is amended as follows:

Purpose:	The purpose of Amendment No. 2 is to; 1) Replace Appendix E – Price Worksheets, in its entirety, with Appendix E - Price Worksheet 02709 a2. 2) Answer questions that were brought up in the pre-bid specification review. 3) Replace Appendix F – Technical Requirements, in its entirety, with Appendix F – Technical Requirements 02709 a2.
	<u>This Amendment must be submitted with the bid. All other Terms, Conditions, and Specifications remain unchanged.</u>

Previously scheduled opening date and time
August 27, 2009 2:00pm, PST

New opening date and time
N/A


Conna Cooper
Signed (Procurement Coordinator)

8/19/2009
Date signed

8/19/2009
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Bidder must complete the following and return with bid:

Company:

Authorized Representative:

Signature

Date

**Replace Appendix E – Price Worksheets, in its entirety, with the following worksheets
(Changes were made to Segment B-Item 4):**

Appendix E - Price
Worksheet a2

APPENDIX E PRICE WORKSHEET**Segment A Pricing:**

Req. Item	Comm. Code	Description	Qty	Unit	Unit Price	Total Price
1.	2320	Item 1: Cab & Chassis – 38,000 GVW 4x2 w/ Automatic Transmission Refer to Appendix F.3, Technical Requirements Segment A. Product Bid: Mfg: _____ Brand/Model:	8	EA	\$	\$
2.	2320	Item 2: Cab & Chassis – 38,000 GVW 4x2 Refer to Appendix F.3, Technical Requirements Segment A. Product Bid: Mfg: _____ Brand/Model:	40	EA	\$	\$
3.	2320	Item 3: Cab & Chassis – 38,000 GVW 4x4 Refer to Appendix F.3, Technical Requirements Segment A. Product Bid: Mfg: _____ Brand/Model:	4	EA	\$	\$

02709 a2, Various Cab & Chassis – including Hybrids

4.	2320	<p>Item 4: Cab & Chassis –58,000 GVW 6x4</p> <p>Refer to Appendix F.3, Technical Requirements Segment A.</p> <p>Product Bid: Mfg:</p> <p>_____</p> <p>Brand/Model:</p> <p>_____</p>	40	EA	\$	\$
5.	2320	<p>Item 5: Cab & Chassis –64,000 GVW 6x4</p> <p>Refer to Appendix F.3, Technical Requirements Segment A.</p> <p>Product Bid: Mfg:</p> <p>_____</p> <p>Brand/Model:</p> <p>_____</p>	10	EA	\$	\$
6.	2320	<p>Item 6: Truck Flatbed – Traffic Control</p> <p>Refer to Appendix F.3, Technical Requirements Segment A.</p> <p>Product Bid: Mfg:</p> <p>_____</p> <p>Brand/Model:</p> <p>_____</p>	20	EA	\$	\$

Other: Provide additional options that may be available for this item in accordance with Appendix F.3, Technical Requirements. Provide additional sheet(s) if necessary.

- a. _____ \$ _____
- b. _____ \$ _____
- c. _____ \$ _____
- d. _____ \$ _____
- e. _____ \$ _____
- f. _____ \$ _____

APPENDIX E PRICE WORKSHEET**Segment B Pricing:**

Req. Item	Comm. Code	Description	Qty	Unit	Unit Price	Total Price
1.	2320	Item 1: Cab & Chassis – 37,000 GVW 4x2 Refer to Appendix F.3, Technical Requirements Segment B. Product Bid: Mfg: _____ Brand/Model:	6	EA	\$	\$
2.	2320	Item 2: Cab & Chassis – 64,000 GVW 6x4 Refer to Appendix F.3, Technical Requirements Segment B. Product Bid: Mfg: _____ Brand/Model:	10	EA	\$	\$
3.	2320	Item 3: Cab & Chassis – 37,000 GVW 4x2 Refer to Appendix F.3, Technical Requirements Segment B. Product Bid: Mfg: _____ Brand/Model:	6	EA	\$	\$

02709 a2, Various Cab & Chassis – including Hybrids

4.	2320	<p>Item 4: Cab & Chassis – 37,000 54,000 GVW 6x4</p> <p>Refer to Appendix F.3, Technical Requirements Segment B.</p> <p>Product Bid: Mfg: _____</p> <p>Brand/Model: _____</p>	6	EA	\$	\$
5.	2320	<p>Item 5: Cab & Chassis – 66,000 GVW 6x4</p> <p>Refer to Appendix F.3, Technical Requirements Segment B.</p> <p>Product Bid: Mfg: _____</p> <p>Brand/Model: _____</p>	10	EA	\$	\$

Other: Provide additional options that may be available for this item in accordance with Appendix F.3, Technical Requirements. Provide additional sheet(s) if necessary.

- a. _____ \$ _____
- b. _____ \$ _____
- c. _____ \$ _____
- d. _____ \$ _____
- e. _____ \$ _____
- f. _____ \$ _____

APPENDIX E PRICE WORKSHEET**Segment C Pricing:**

1.	2320	Item 1: Truck Hybrid Flatbed – Traffic Control Refer to Appendix F.3, Technical Requirements Segment C. Product Bid: Mfg: Brand/Model:	2	EA	\$	\$
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Other: Provide additional options that may be available for this item in accordance with Appendix F.3, Technical Requirements. Provide additional sheet(s) if necessary.

- | | | |
|----|-------|----------|
| a. | _____ | \$ _____ |
| b. | _____ | \$ _____ |
| c. | _____ | \$ _____ |
| d. | _____ | \$ _____ |
| e. | _____ | \$ _____ |
| f. | _____ | \$ _____ |

Replace Appendix F – Technical Requirements, in its entirety, with the following document:

Appendix F -
02709a2

APPENDIX F TECHNICAL REQUIREMENTS

F.1. SHIPPING TERMS

Terms of Sale	Responsibility for Freight Cost and Transit Risk
<i>F.O.B. Destination, freight prepaid and included</i>	<i>Seller - Pays freight charges Seller - Bears freight charges Seller - Owns goods in transit Seller - Files claims (if any)</i>

F.2. VEHICLE & EQUIPMENT BIDDING REQUIREMENTS FOR WSDOT

Acceptance of Terms:

Acceptance of the Purchase Order/Field Order by the Contractor for any equipment purchased pursuant to this bid/Contract constitutes acceptance of, and agreement with, all of the general and specific provisions, requirements, stipulations and equipment specification(s) described in this bid/Contract.

Equipment offered for this Contract must be new (unused) **and a current production model that require no manufacturer or dealership modifications**. Units may be sold, prepared, and delivered to WSDOT, or its designated agent, by a dealer who is factory franchised for the specific makes and models of equipment offered.

Specification Clarification and Change:

Clarification for any item in these specifications may be obtained from the Office of State Procurement (OSP)

Equipment Demonstration:

Prior to a Contract award, and during the bid evaluation process, Bidder(s) may be required to demonstrate the performance capabilities of the equipment offered in their bid.

Performance demonstration(s) must be conducted within fourteen (14) calendar days after notification that such demonstration(s) is required. Bidder(s) shall conduct all demonstration(s) within Washington State and are responsible for their costs associated with the demonstration(s).

The Bidder(s) will coordinate with WSDOT, Equipment Administration Office at (360) 705-7882/7884 to establish the location, date and time of the performance demonstration(s).

Delivery; and Acceptance:

WSDOT will require the successful Contractor to provide the “Supplier Confirmation of Specification Compliance” at time of delivery. The form is attached at the end of these bidding requirements. Suppliers are responsible for ensuring that all equipment purchased, pursuant to this Contract, complies with all of the requirements and specifications listed in the Contract.

Supplier(s) shall provide the following documents for review at time of delivery for each item.

1. The manufacturer’s line production sheet stating the equipment serial numbers and listing all of the equipment’s components;
2. Completed Invoice;
3. Supplier Confirmation of Specification Compliance;
4. The Manufacturer’s Statement of Origin (MSO);
5. Axle weight slips (for all units with axles), and;
6. A completed Washington State title application showing both the legal and registered owner as; Washington State Department of Transportation, 7345 Linderson Way S.W., Tumwater WA 98501. The mailing address is P.O. Box 47357, Olympia WA, 98504. Out of state Supplier(s) may Contract WSDOT, Equipment Administration Office at (360) 705-7882/7884 to obtain a Washington State title application.

When the unit is ready for final delivery, it may be delivered to WSDOT facilities (as specified on the Contract and or equipment order) between the hours of 7:00 am and 3:00 pm, Monday through Friday. Deliveries shall not be made during other hours, on weekends or on legally recognized state and federal holidays.

Suppliers must notify WSDOT at the phone number listed on the Contract or the equipment order, twenty-four (24) hours prior to equipment delivery. This is to ensure that a WSDOT employee is available to sign and date the bill of lading (or other type delivery document), and receive the above mention documents, and to indicate WSDOT has accepted delivery of the equipment.

WSDOT will not accept any kind of responsibility for equipment that has been delivered to or left at a WSDOT facility, unless a WSDOT employee has signed and dated the bill of lading or other delivery document indicating WSDOT has accepted delivery of the equipment.

Supplier shall be solely liable for any equipment damages that occurred prior to WSDOT accepting delivery of the equipment.

Supplier Shall Meet the Delivery Terms of this Contract:

WSDOT strives to place new equipment into service prior to the high use season for which the equipment is being purchased. For example, snow and ice equipment must be in-service by October and mowing equipment must be in-service by March. It is essential that the

equipment pass compliance inspections, be delivered, and processed for payment within the fiscal year for which the equipment is funded

Should the Contractor fail to timely deliver the equipment, for whatever reason, in compliance with the Contract or equipment order delivery date, liquidated damages will be assessed. The amount of liquidated damages will be calculated by using WSDOT's established Equipment Rental Rate Schedule that is in effect as of the date of the Contract or equipment order. Liquidated damages will be assessed at the established **per day** equipment rental rate for each late delivery day, not to exceed ten percent of the equipment's purchase price. This assessment represents a reasonable forecast of WSDOT's actual damages for having to rent replacement equipment. WSDOT shall deduct the liquidated damages for late delivery from Contractor's invoice.

Should the Supplier become aware, in advance of an equipment delivery date, that the Supplier will be unable to meet the Contract delivery date; the Supplier may make a written request to the Department of General Administration, Office of State Procurement (OSP) for a Contract change order modifying the equipment delivery date.

Warranty Services and Performance:

Equipment suppliers must provide technical support and reasonable equipment modifications for a period of 90 calendar days after the date the equipment is reported in service per manufacturer and/or factory warranty requirements. This is to ensure that the purchased equipment is capable of performing the specified operational functions.

Bidders/Suppliers must include, as part of the bid, the factory and/or manufacturer's one year warranty, which shall cover 100% parts and labor for the entire unit offered. This warranty must be honored by all authorized factory and/or manufacturer's dealerships.

Supplier shall be liable for all costs associated with warranty repair(s), including, but not limited to, materials, parts, labor, and transport of equipment that are disabled due to the failure of the equipment during the warranty period.

Warranty coverage will not commence until the date the completed equipment is placed into service as reported by WSDOT pursuant to the warranty requirements, or 30 days after final payment for the equipment, whichever occurs first.

The equipment Bidder/Supplier must be capable of and will be liable for providing repair parts and supply support for a period of ten (10) years after the delivery date of the equipment.

During the warranty period Supplier must begin physical repairs on equipment failures within 72 hours after WSDOT has notified the Supplier of an equipment failure. Should the Supplier fail to begin equipment repairs within 72 hours after notification, WSDOT may elect (based on operational requirements) to make the warranty repairs. Should WSDOT

elect to make such warranty repairs, the Supplier agrees to fully reimburse WSDOT for all parts, materials, labor, shipping and travel costs incurred by WSDOT for such warranty repairs. WSDOT shall provide Supplier with a detailed invoice, and Supplier agrees to remit payment to the WSDOT within thirty days (30) after receipt of the invoice.

During warranty period the Supplier may, upon notification of a warranty failure, authorize WSDOT equipment repair technicians to make warranty repairs when it advantages to WSDOT and the Supplier. The Supplier shall reimburse WSDOT for all costs associated with the warranty repair.

Training:

Equipment Supplier shall provide on-site instructor(s) to conduct eight hours of operator training per unit delivered and eight hours of repair technician training per unit delivered. During the eight hour training period, the length and number of training session(s) required may vary based on the equipment's complexity and personnel experience levels. Training session(s) may be less than eight hours should the WSDOT on-site supervisor or Equipment Training Manager determines that all personnel have completed training and the Supplier's training obligation has been fulfilled. The training session(s) shall include, but not be limited to, the below listed items.

1. Operator training will be designed to familiarize personnel with the controls, safety features, operating characteristics and operator checks and services.
2. Operator training may include teaching operators shifting, acceleration, and braking techniques to maximize operational effectiveness of the unit's power train configuration for equipment so configured.
3. Mechanic training shall be designed to familiarize service and repair technicians with preventative maintenance checks and services, system diagnostics procedures, repairs, adjustments, and any unique requirements associated with the entire unit. All training shall be scheduled and coordinated with the ship to addressee. Coordination will include dates, times, location, number of students per session, number of sessions required, facilities and training equipment and material.

Qualified individuals shall conduct training sessions. "Qualified" means that the trainer must have a high level of knowledge and experience relating to the type of equipment offered or purchased:

1. Person(s) conducting the operator training session(s) must have a minimum of one year of experience in actually operating the unit for which training is being conducted or a factory/manufacture certified trainer.

Person(s) conducting repair technician training session(s) must have at least one year of experience in the performance of preventive maintenance and repair on.

<u>WSDOT Supplier Specification Confirmation</u>	<u>Supplier Initials and Date</u>
• Supplier is 100 % compliant with the bid specification(s) per the contract.	
• The unit is clean inside/outside upon delivery to WSDOT	
• All required documentation as per the WSDOT and OSP bidding requirements are presented at time of delivery. Example:	
1. MSO	
2. Title Application	
3. Axle weight slip (if required)	
4. Supplier Confirmation of Specification Compliance (this form)	
5. Invoice	
• All safety equipment is provided and in proper working condition. (Lights, reflectors, seatbelts, etc.)	
• All required publications are brought with the unit upon delivery.	
• Workmanship Issues	
a. All hoses and wiring are protected from damage.	
b. All fluid levels have been checked and are at the manufacturer's suggested levels.	
c. All components are in proper working condition.	
d. Welds are consistent and without cracks	
e. No runs, cracks or chips in the paint.	
Printed Vendor Name _____	
Vendor Signature _____	Date _____

F.3 SPECIFICATION REQUIREMENTS

**SPECIFICATIONS SHEETS MUST BE RETURNED WITH BID OR MAY RESULT IN
BID REJECTION**

SEGMENT A

Item 1: Cab & Chassis - 38,000 GVW 4X2 with Automatic Transmission

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. Chassis, Load capacity and Measurements:		
1. Chassis load rating shall be 38,000 lbs (GVWR).		
2. Wheel Base shall be 170-174 inches, with a set forward axle. <u>A set back front axle is required</u> State Wheel Base Bid		
3. Cab to Axle (CA) shall be at least 96 inches clear.		
4. Bumper to Back of Cab (Excluding extension)) shall be within the range of 107 to 113 inches. State BBC Bid		
II. Frame:		
1. The entire length of the frame rails shall be full depth, including an integral front frame extension. <u>At least 24 inches WSDOT would need to know what this measurement is from each manufacturer.</u>		
2. Both frame rails, from front to rear, shall have a section modulus of 30.00 and a RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be equal to or greater than 18.00, with a RBM of 2,000,000 in. lbs.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<p>4. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials</p> <p>State type of coating bid</p>		
<p>5. There shall be no holes or bolts in the top flange of the frame rails.</p>		
<p>6. The left frame shall be clear, between the fuel tank and the front hanger of the rear spring assembly.</p>		
<p>7. Cross-members shall not be riveted to the frame rails; however cross-member components may be riveted to form a cross-member assembly.</p>		
<p>8. A front cross member shall be positioned and, drilled, to accommodate the mounting of a hydraulic pump and lines, without further modification.</p>		
<p>9. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.</p>		
<p>III. Cab and Related Equipment:</p>		
<p>1. Shall have an air ride premium cab to include the following</p> <ul style="list-style-type: none"> a. Insulated Engine Cover b. Insulated Floor c. Molded header pockets for the driver and passenger sides. d. Reading Lights e. Door storage pockets f. Courtesy lights under instrument panel. g. Coaxial speakers. 		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
h. Two factory mounted speakers for the CB.		
2. Cab shall have 21 inches of clear space between the driver and passenger seat.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. The amount of pulling tension required to open the hood and fenders shall not exceed 30 lbs.		
5. Shall have a metal stone guard mounted behind the grill to protect the radiator.		
6. Shall have a circuit protected and labeled low hydraulic oil light mounted in the top row of the switch panel. See section VII.8 for specific mounting location		
7. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger and an auxiliary sun visor on driver's side.		
g. Factory installed air conditioning.		
h. Shall have a digital and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
warning system.		
8. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch</u> rearview mirrors. The mirrors shall be equipped with an 8 to 10 inch convex spot mirror and extendable to 102-inch width.		
9. Shall be equipped with an air horn.		
10. Shall be equipped with cowl mounted, electric, intermittent windshield wipers		
11. Shall have a heavy-duty wiper motor with, snow clutch, and thermo protection.		
12. The wiper linkage shall be severe-duty formed linkage. Pressed steel linkage is not acceptable.		
13. The cab noise level shall not exceed 83 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed. This will be measured at time of compliance inspection		
14. Shall be equipped with both interior and exterior, egress / ingress assist handles. on the drivers side and interior grab handles on the passenger side		
15. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. <u>Radio Installation:</u>		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ^{3/16} inches.		
b. Length 8 ^{5/16} inches.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed; the face of the radio shall not extend further than one inch out of the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable.		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EF J radio.		
10. Shall have a dedicated and labeled 15-amp		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
constant duty (fused) power circuit for the EFJ Radio.		
11. Connected to the 15-amp EFJ dedicated radio power circuit shall be a power wire (EFJ Part# 023-9750-010 or equal) extended to radio mount plus 15 inches of additional wire...		
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3-amp and will be switched through the ignition switch and active in the run or accessory positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011 or equal) extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio mounting package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		
V. Seats		
1. Driver and passenger seats shall be a cloth covered high back National air ride seat with air lumbar support and arm rest.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
VI. Fuel Tank:		
1. Shall have an 80-gallon fuel tank.		
2. The tank shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the left frame rail.		
4. Shall not extend past the back of the cab.		
VII. Electrical & Lighting Systems:		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab. In the event the manufacturer cannot mount the power distribution box(s) inside, the manufacturer will warranty each box for eight years.		
4. Batteries shall have at least 1,950 cold cranking amps (CCA) and be maintenance-free.		
5. The battery box cover shall be constructed of a non-metallic reinforced material. The batteries shall rest in a plastic tray and be protected by an additional plastic cover covering all of the batteries. This cover shall be secured by thumbscrews or <u>quick release latches</u> or wing nuts.		
6. The battery box shall be mounted on the right side frame rail as close to the cab as possible and 6 to 8 inches below the frame rail flange. This is measured from the		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
highest point of the box to the top of the frame rail flange. WSDOT will evaluate various battery box locations if different than what is specified. The bidder must provide detailed drawings of the specific battery box location.		
7. All cable ends shall be sealed, and equipped with rubber retainers and covers. All battery cables exiting the battery box shall be routed through rubber grommets.		
8. Shall have an additional OEM in dash 6 position or <u>more</u> switch panel powered by the ignition switch in both run and accessory positions. and all switches shall be on/off and configured as follows: All 6 switches shall be on the same row		
a. Shall have automatic circuit protection		
b. Shall be back lit, and labeled rocker panel switches		
c. Located on a separate OEM switch panel from the switches annotated in items “e, f, g, and h” below and located in the first position, shall be a labeled and AMBER in color “Shift Light”. This light will illuminate to indicate a transmission shift is needed to maintain engine RPM within the engines power band. The light will not illuminate in the top two gears. This will be a programmable feature using chassis electronics.		
Co-located with the shift light and in the fourth position (Shift Light and Hyd. light not side by side) will be a <u>RED</u> , factory installed labeled “Low Hydraulic Oil Light”. This light will be programmed to illuminate when the aux. hydraulic oil tank is low on fluid.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
Additionally the low air buzzer will intermittently sound in conjunction with the light. This will be a programmable feature using chassis electronics.		
<p>d. Located on the additional switch panel shall be labeled switches as annotated below.</p> <p>e. Position 1 (Warning Light) amber in color.</p> <p>f. Position 2 (Work Light) amber in color.</p> <p>g. Position 3 (Alt Flash) amber in color.</p> <p>The chassis electronics will be programmed to turn off the alternating lights when the turn signal or brakes lights are applied. After the turn signal or the brakes are not engaged the alt. flashing lights will continue to operate normally.</p> <p>h. Position 4 shall be utilized to accommodate chassis alt flash electronic chassis programming.</p> <p>i. Positions 5 and 6 will be powered and not labeled</p>		
9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.		
10. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a standard 7-pole <u>non metallic</u> trailer connector with ABS. (Conventional Wiring).		
11. The connection points on the 7-wire		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
plug will be sealed and watertight. Both sides of this receptacle shall be packed with die-electric grease		
12. Shall be equipped halogen headlamps.		
13. Shall have the manufacturer's standard, LED tail lights and assemblies to include backup lights.		
14. Shall have factory installed snow plow light wiring which will terminate at the forward portion of the frame rail and will be inside the engine compartment. Each end of this wiring shall have a weather pack connector.		
15. A labeled switch shall be installed that will allow the full operation of either the OEM headlights or the snowplow lights. This switch shall prevent operation of the two sets of headlamps simultaneously.		
16. Supplier splices into the factory wiring harness is unacceptable.		
VIII. Engine:		
1. Shall have a 330 gross hp at 2100 rpm and 1250 ft lbs torque at 1000 to 1200 RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph at 1700 RPM.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with 1000-1500 watt 110 volt block heater with the plug-in receptacle located on the left side under the driver's door.		
5. Shall have a flange for a front crankshaft driven PTO.		
6. The engine shall be outfitted with a zinc nickel alloy oil pan.		
7. A driveline hole through the radiator is not acceptable.		
IX. Air Cleaner:		
1. Shall be dual element, dry-type, with fresh air intake.		
2. A vacuum, air restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. A cab controlled selector valve shall be located in the air cleaner that allows fresh air intake from outside of the vehicle during normal operations and from under the hood during cold weather operations.		
4. The selector valve components shall not interfere with the hood operation (opening and closing).		
5. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. Engine Cooling System:		
1. Shall be equipped with a temperature		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
controlled, two speed air clutch fan drive.		
2. Shall be cross flow, radiator with de-aeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Shall have long life Antifreeze with -34 ° of protection		
XI. Engine Exhaust System:		
1. Shall be a single horizontal muffler and vertical pipe. The vertical pipe shall not protrude more than 3-5 inches behind the cab.		
2. Shall have an under cab mounted horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		
XII. Transmission:		
1. Shall be an Allison 4500-RDS-P, six speed automatic transmission, to include an oil level sensor and a T-handle gear selector.		
2. The transmission ECM shall be located inside the cab of the truck.		
3. The transmission shall be programmed to perform shifts when the engine is out of the power band.		
4. Shall be equipped with a variable sound backup alarm. <u>The backup alarm must have at least two different sounds.</u> <u>Example: High pitch and a low pitch.</u>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XIII. <u>Steering System:</u>		
1. Shall have a dual power steering system		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to include tilt and telescopic.		
XIV. <u>Axles and Suspension:</u>		
1. <i>Front Axle</i> shall be an 18,000 lbs. axle, with heavy-duty double acting shock absorbers.		
2. <i>Rear Axle</i> shall have a 23,000 lbs. rating and a gear ratio to allow 65-mph at 1700 RPM with driver controlled traction differential Bidders shall offer various rear axle gear ratios at no cost.		
3. Shall have a vari-rate or progressive suspension with 31,000 lbs. capacity. Additionally the unit shall be equipped with 4,500 lbs., Multi-leaf auxiliary springs.		
XV. <u>Wheels and Tires:</u>		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G622RSD RTD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches		
3. All wheels shall be an Accuride steel wheel with an individual weight rating of at least 8,000 pounds per wheel.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. All wheels shall be powder <u>coated with white paint.</u>		
5. All wheels shall have wheel <u>guards or gaskets</u> installed on all axles. This will include guards between the hub and the wheel as well as in-between each wheel. (Duals)		
6. Lead wheel weights are unacceptable		
7. All tires will be siped.		
XVI. Brake System:		
1. Shall be an anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear, with shields installed.		
3. Shall have outboard mounted brake drums, and the size of the drums will accommodate the manufacturers GVWR of the chassis. WSDOT will accept power disc brakes if offered.		
4. All brake blocks shall be non-asbestos.		
5. Shall have 30 sq. in. MGM TR-T series rear brake chambers.		
6. Shall have an. air compressor delivering at least 15 CFM with the intake plumbed to the filtered side of the air cleaner.		
7. Shall have the Rockwell Wabco System Saver 1200 air dryer, mounted on the right inside frame rail and 35 inches behind the cab.		
8. The air tank drain will be accessible from outside the frame rails.		
9. A trailer air supply line shall be routed to		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
a distribution block.		
10. Chassis shall be equipped with a trailer hand control valve and a tractor protection valve.		
XVIII. Exterior Finish		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale, rough, sharp edges or corners.		
2. The entire cab and chassis shall be painted National Safety Yellow (Sikkens 4039 or Equal).		
XX. Publications:		
1. Each unit shall be delivered with an operator's manual.		
XXI. Option Pricing		
<u>Pilot Inspection:</u>		
To curtail manufacturing errors prior to delivery, the successful bidder shall arrange and fully fund a three (3) day factory pilot inspection for two WSDOT representatives to review one of the completed chassis. Funded expenses are to include coach class round trip airfare, ground transportation originating and terminating at the airport, 2 nights lodging, and meals.		
1. Air Ride Suspension		
2. Various wheelbase and cab to axle configurations		
3. A 24-inch under body plow clearance package with a clean CA.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. Left and Right side additional suspension capacity for wing plows.		
5. Twelve, (12) fourteen, (14) sixteen (16) and twenty (20) thousand pound front axles with corresponding suspension and tires.		
6. Optional rear suspensions, and rear axles a. 21K 2 Speed Rear Axle b. 22K rear Axle c. 23K Rear Axle d. 26K rear Axle		
7. Delete amount for Driver Controlled Diff. Lock		
8. Power Windows, Door Locks		
9. Alternative Engines for this class of chassis 2010 Federal Emissions compliant Provide option pricing for various Horse Power engines within these ranges. <div> <div>Engine</div> <div>Non UREA</div> <div>UREA</div> </div> a. 410 HP 1450 Torque _____ b. 430 HP 1550 Torque _____ c. 475 HP 1700 Torque _____		
10. Delete front frame extension		
11. Set Back Front axle.		
12. 7/16 Frame Rail		
13. Aluminum Wheels		
14. Extended Cab and Crew cab configurations.		
15. Engine diagnostic software and hardware to include all required cabling.		
16. Dual 70 gallon Fuel tanks.		
17. Aluminum 80 Gallon fuel tank		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
18. Single 100 Gallon fuel tank		
19. Deduct amount for the manufacturer's standard white paint.		
20. Delete Air Conditioning		
21. Delete WSDOT radio effects		
22. 13 speed Fuller Auto Shift		
23. 13 Speed Fuller Ultra Shift		
24. Delete Trailer Connections		
25. Add for an exterior Sun Visor		
26. Delete WSDOT battery configuration		
27. Vinyl seats		
28. Delete Bug Guard		
29. Delete Siped tires		
30. Delete snow plow headlight wiring		
31. Delete backup alarm		
32. Delete dash mounted shift light		
33. Delete dash mounted low hyd. oil light		
34. Delivery to Spokane		
35. Delivery to Yakima		
36. Delivery to Wenatchee		
37. Delivery to Vancouver		
38. Delivery to Olympia		
39. Delivery to Seattle		
40. 135 AMP High output @ low RPM alternator		
41. Stationary passenger seat.		
42. Deluxe interior trim		
43. Transmission retarder		
44. Delete switchable air intake		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
45. Longer or shorter wheel base in 10 inch increments.		
46. Various Allison automatic transmissions for this series of chassis		
47. Left side battery box location.		
48. Additional 6 position switch panel to include chassis programmable control box.		

Item 2: Cab & Chassis - 38,000 GVW 4X2

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. Chassis, Load capacity and Measurements:		
1. Chassis load rating shall be 38,000 lbs (GVWR).		
2. Wheel Base shall be 170-174 inches, with a set forward axle. State Wheel Base Bid		
3. Cab to Axle (CA) shall be at least 96 inches clear.		
4. Bumper to Back of Cab (Excluding extension)) shall be within the range of 107 to 113 inches. State BBC Bid		
II. Frame:		
1. The entire length of the frame rails shall be full depth, including an integral front frame extension. <u>At least 24 inches WSDOT would need to know what this measurement is from each manufacturer.</u>		
2. Both frame rails, from front to rear, shall have a section modulus of 30.00 and a RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be equal to or greater than 18.00, with a RBM of 2,000,000 in. lbs.		
4. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials State type of coating bid		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
5. There shall be no holes or bolts in the top flange of the frame rails.		
6. The left frame shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
7. Cross-members shall not be riveted to the frame rails; however cross-member components may be riveted to form a cross-member assembly.		
8. A front cross member shall be positioned and, drilled, to accommodate the mounting of a hydraulic pump and lines, without further modification.		
9. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		
III. Cab and Related Equipment:		
1. Shall have an air ride premium cab to include the following <ul style="list-style-type: none"> a. Insulated Engine Cover b. Insulated Floor c. Molded header pockets for the driver and passing d. Reading Lights e. Door storage pockets f. Courtesy lights under instrument panel. g. Coaxial speakers. h. Two factory mounted speakers for the CB. 		
2. Cab shall have at least 21 inches of clear space between the driver and passenger		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
seat.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. The amount of pulling tension required to open the hood and fenders shall not exceed 30 lbs.		
5. Shall have a metal stone guard mounted behind the grill to protect the radiator.		
6. Shall have a circuit protected and labeled low hydraulic oil light mounted in the top row of the switch panel. See section VII.8 for specific mounting location.		
7. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger and an auxiliary sun visor on driver's side.		
g. Factory installed air conditioning.		
h. Shall have a digital and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		
8. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch.</u> The mirrors shall be		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
equipped with an 8 to 10 inch convex spot mirror and extendable to 102-inch width.		
9. Shall be equipped with an air horn.		
10. Shall be equipped with cowl mounted, electric, intermittent windshield wipers		
11. Shall have a heavy-duty wiper motor with, snow clutch, and thermo protection.		
12. The wiper linkage shall be severe-duty formed linkage. Pressed steel linkage is not acceptable.		
13. The cab noise level shall not exceed 83 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
14. Shall be equipped with both interior and exterior, egress / ingress assist handles. on the driver's side and interior grab handles on the passenger side		
15. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. Radio Installation:		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
average person.		
3. When installed; the face of the radio shall not extend further than one inch out of the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable.		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EF J radio.		
10. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ Radio.		
11. Connected to the 15-amp EFJ dedicated radio power circuit shall be a power wire (EFJ Part# 023-9750-010 or equal) extended to radio mount plus 15 inches of additional wire.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3-amp and will be switched through the ignition switch and active in the run or accessory positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011 or equal) extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		
<u>V. Seats</u>		
1. Drivers and passenger seat shall be a cloth covered high back National air ride seat with air lumbar support and arm rest.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
<u>VI. Fuel Tank:</u>		
1. Shall have an 80-gallon fuel tank.		
2. The tank shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the left frame rail.		
4. Shall not extend past the back of the cab.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
VII. Electrical & Lighting Systems:		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab.		
4. Batteries shall have at least 1,950 cold cranking amps (CCA) and be maintenance-free.		
5. The battery box cover shall be constructed of a non-metallic reinforced material. The batteries shall rest in a plastic tray and be protected by an additional plastic cover covering all of the batteries. This cover shall be secured by thumbscrews wing nuts <u>or quick release latches.</u>		
6. The battery box shall be mounted on the right side frame rail as close to the cab as possible and 6 to 8 inches below the frame rail flange. This is measured from the highest point of the box to the top of the frame rail flange. WSDOT will evaluate various battery box locations if different than what is specified. The bidder must provide detailed drawings of the specific battery box location.		
7. All cable ends shall be sealed, and equipped with rubber retainers and covers. All battery cables exiting the battery box shall be routed through rubber grommets.		
8. Shall have an additional OEM in dash 6 position switch panel <u>or more</u> powered by the ignition switch in both run and		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
accessory positions. and all switches shall be on/off and configured as follows: All 6 switches shall be on the same row		
a. Shall have automatic circuit protection		
b. Shall be back lit, and labeled rocker panel switches		
c. Located on a separate OEM switch panel from the switches annotated in items “e, f, g, and h” below and located in the first position, shall be a labeled and AMBER in color “Shift Light”. This light will illuminate to indicate a transmission shift is needed to maintain engine RPM within the engines power band. The light will not illuminate in the top two gears. This will be a programmable feature using chassis electronics.		
d. Co-located with the shift light and in the fourth position (Shift Light and Hyd. light not side by side) will be a RED , factory installed labeled “Low Hydraulic Oil Light”. This light will be programmed to illuminate when the aux. hydraulic oil tank is low on fluid. Additionally the low air buzzer will intermittently sound in conjunction with the light. This will be a programmable feature using chassis electronics.		
<p>Located on the additional switch panel shall be labeled switches as annotated below.</p> <p>e. Position 1 (Warning Light) amber in color.</p> <p>f. Position 2 (Work Light) amber in color.</p> <p>g. Position 3 (Alt Flash) amber in color.</p> <p>The chassis electronics will be programmed</p>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<p>to turn off the alternating lights when the turn signal or brakes lights are applied. After the turn signal or the brakes are not engaged the alt. flashing lights will continue to operate normally.</p> <p>h. Position 4 shall be utilized to accommodate chassis alt flash electronic chassis programming.</p> <p>i. Positions 5 and 6 will be powered and not labeled</p>		
<p>9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.</p>		
<p>10. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a standard 7-pole <u>non metallic</u> trailer connector with ABS. (Conventional Wiring).</p>		
<p>11. The connection points on the 7-wire plug will be sealed and watertight. Both sides of this receptacle shall be packed with die-electric grease.</p>		
<p>12. Shall be equipped halogen headlamps.</p>		
<p>13. Shall have the manufacturers standard, LED tail lights and assemblies to include backup lights</p>		
<p>14. Shall have factory installed snow plow light wiring which will terminate at the forward portion of the frame rail and will be inside the engine compartment. Each end of this wiring shall have a weather pack connector.</p>		
<p>15. A labeled switch shall be installed that will allow the full operation of either the OEM headlights or the snowplow lights. This switch shall prevent operation of</p>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
the two sets of headlamps simultaneously.		
16. Supplier splices into the factory wiring harness is unacceptable.		
VIII. Engine:		
1. Shall have at least 330 gross hp at 2100 rpm and 1250 ft lbs torque at 1000 to 1200 RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
4. Maximum road speed to be 65 mph at 1700 RPM.		
5. Cruise control speed to be 60 mph.		
6. Automatic Idle shut down to be 10 minutes.		
7. Idle, Set 675, Resume 1,000.		
8. Shall have idle bump up/down feature.		
9. Shall be equipped with 1000-1500 watt 110 volt block heater with the plug-in receptacle located on the left side under the driver's door.		
10. Shall have a flange for a front crankshaft driven PTO.		
11. The engine shall be outfitted with a zinc nickel alloy oil pan.		
12. A driveline hole through the radiator is not acceptable.		
IX. Air Cleaner:		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
1. Shall be dual element, dry-type, with fresh air intake.		
2. A vacuum, air restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. A cab controlled selector valve shall be located in the air cleaner that allows fresh air intake from outside of the vehicle during normal operations and from under the hood during cold weather operations.		
4. The selector valve components shall not interfere with the hood operation (opening and closing).		
5. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. Engine Cooling System:		
1. Shall be equipped with a temperature controlled, two speed air clutch fan drive.		
2. Radiator shall be a cross flow with de-aeration system and coolant filter.		
3. All coolant hose clamps shall be Constant Torque.		
4. Shall have long life Antifreeze with -34 ° of protection		
XI. Engine Exhaust System:		
1. Shall be a single horizontal muffler and vertical pipe. The vertical pipe shall not protrude more than 3-5 inches behind the cab.		
2. Shall have an under cab mounted horizontal DPF and DOC		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		
<u>XII. Transmission:</u>		
1. Shall be an Eaton Fuller RTLO 12913A.		
2. The transmission shall be equipped with a speed sensor cover with dual ports.		
3. Shall be equipped with a variable sound backup alarm (<u>High pitch and low pitch sound</u>).		
4. Shall be equipped with a two-piece clutch brake.		
5. Clutch to be an Eaton Spicer 15.5", 2-plate Easy – Pedal Plus II.		
<u>XIII. Steering System:</u>		
1. Shall have a dual power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to include tilt and telescopic.		
<u>XIV. Axles and Suspension:</u>		
1. Front Axle shall be an 18,000 lbs. axle, with heavy-duty double acting shock absorbers.		
2. Rear Axle shall have suspension with a 23,000 lbs. rating and a gear ratio to allow 65-mph, at 1700 RPM with a driver controlled traction differential Bidders shall offer various rear axle gear		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
ratios at no cost.		
3. Shall have a vari-rate or progressive suspension with 31,000 lbs. capacity. Additionally the unit shall be equipped with 4,500 lbs., Multi-leaf auxiliary springs.		
XV. Wheels and Tires:		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G622 RSD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches		
3. All wheels shall be an Accuride steel wheel with an individual weight rating of at least 8,000 pounds per wheel.		
4. All wheels shall be powder coated <u>with white paint</u> .		
5. All wheels shall have wheel guards installed on all axles. This will include guards between the hub and the wheel as well as in-between each wheel. (Duals)		
6. Lead wheel weights are unacceptable		
7. All tires will be siped.		
XVI. Brake System:		
1. Shall be an anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear with shields installed.		
3. Haldex slack adjusters are not acceptable.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. Shall have outboard mounted brake drums, and the size of the drums will accommodate the manufacturers GVWR of the chassis. WSDOT will accept power disc brakes if offered.		
5. All brake blocks shall be non-asbestos.		
6. Shall have 30 sq. in. MGM TR-T series rear brake chambers.		
7. Shall have an. air compressor delivering at least 15 CFM with the intake plumbed to the filtered side of the air cleaner.		
8. Shall have the Rockwell Wabco System Saver 1200 air dryer, mounted on the right inside frame rail, and 35 inches behind the cab.		
9. The air tank drain will be accessible from outside the frame rails.		
10. A trailer air supply line shall be routed to a distribution block.		
11. Chassis shall be equipped with a trailer hand control valve and a tractor protection valve.		
XVII Exterior Finish		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale, rough, sharp edges or corners.		
2. The entire cab and chassis shall be painted National Safety Yellow (Sikkens 4039 or Equal).		
XVIII. Publications:		
1. Each unit shall be delivered with an operator's manual.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XVIII. Options		
1. Pilot Inspection:		
To curtail manufacturing errors prior to delivery, the successful bidder shall arrange and fully fund a three (3) day factory pilot inspection for two WSDOT representatives to review one of the completed chassis. Funded expenses are to include coach class round trip air fare, ground transportation originating and terminating at the airport, 2 nights lodging, and meals.		
2. Air Ride Suspension		
3. Various wheelbase and cab to axle configurations		
4. A 24-inch under body plow clearance package with a clean CA.		
5. Left and Right side additional suspension capacity for wing plows.		
6. Twelve, (12) fourteen, (14) sixteen (16) and twenty (20) thousand pound front axles with corresponding suspension and tires.		
7. Optional rear suspensions, and rear axles <ul style="list-style-type: none"> a. 21K 2 Speed Rear Axle b. 22K rear Axle c. 23K Rear Axle d. 26K rear Axle 		
8. Delete amount for Driver Controlled Diff. Lock		
9. Power Windows, Door Locks		
10. Provide option pricing for various Horse Power engines within these ranges.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<p>Engine Non UREA UREA</p> <p>a. 410 HP 1450 Torque _____</p> <p>b. 430 HP 1550 Torque _____</p> <p>c. 475 HP 1700 Torque</p>		
11. Delete front frame extension		
12. Set Back Front axle.		
13. 7/16 Frame Rail		
14. Aluminum Wheels		
15. Extended Cab and Crew cab configurations.		
16. Engine diagnostic software and hardware to include all required cabling.		
17. Dual 70 gallon Fuel tanks.		
18. Aluminum 80 Gallon fuel tank		
19. Single 100 Gallon fuel tank		
20. Deduct amount for the manufacturer's standard paint.		
21. Delete Air Conditioning		
22. Delete WSDOT radio effects		
23. 10 Speed Fuller		
24. 13 speed Fuller Auto Shift		
25. 13 Speed Fuller Ultra Shift		
26. Delete Trailer Connections		
27. Add for an exterior Sun Visor		
28. Delete WSDOT battery configuration		
29. Vinyl seats		
30. Delete Bug Guard		
31. Delete Siped tires		
32. Delete snow plow headlight wiring		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
33. Delete backup alarm		
34. Delete dash mounted shift light		
35. Delete dash mounted low hyd. oil light		
36. Delivery to Spokane		
37. Delivery to Yakima		
38. Delivery to Wenatchee		
39. Delivery to Vancouver		
40. Delivery to Olympia		
41. Delivery to Seattle		
42. 135 AMP High output @ low RPM alternator		
43. Stationary passenger seat.		
44. Deluxe interior trim		
45. Delete switchable air intake		
46. Longer or shorter wheel base in 10 inch increments.		
47. Additional 6 position switch panel to include chassis programmable control box.		
48. Left side battery box location.		
49. A metal battery box cover in lieu of the non metallic box cover.		
50. A battery combination of 2750 CCA capability in lieu of the 1950 CCA		

Item 3: Cab & Chassis - 38,000 GVW, 4x4

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. Chassis, Load capacity and Measurements:		
1. Chassis load rating shall be 38,000 lbs (GVWR).		
2. Wheel Base shall be 170-174 inches, with a set forward axle. State Wheel Base Bid		
3. Cab to Axle (CA) shall be at least 96 inches clear.		
4. Bumper to Back of Cab (Excluding extension)) shall be within the range of 107 to 113 inches. State BBC Bid		
II. Frame:		
1. The entire length of the frame rails shall be full depth, including an integral front frame extension. <u>At least 24 inches WSDOT would need to know what this measurement is from each manufacturer.</u>		
2. Both frame rails, from front to rear, shall have a section modulus of 30.00 and a RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be equal to or greater than 18.00, with a RBM of 2,000,000 in. lbs.		
4. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials State type of coating bid		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
5. There shall be no holes or bolts in the top flange of the frame rails, from the back of the cab to the trunnion.		
6. The left frame shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
7. Cross-members shall not be riveted to the frame rails; however cross-member components may be riveted to form a cross-member assembly.		
8. A front cross member shall be positioned and, drilled, to accommodate the mounting of a hydraulic pump and lines, without further modification.		
9. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		
III. Cab and Related Equipment:		
1. Shall have an air ride premium cab to include the following <ul style="list-style-type: none"> a. Insulated Engine Cover b. Insulated Floor c. Molded header pockets for the driver and passenger sides. d. Reading Light e. Door storage pockets f. Courtesy lights under instrument panel. g. Coaxial speakers. h. Two factory mounted speakers for the CB. 		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
2. Cab shall have at least 21 inches of clear space between the driver and passenger seat.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. The amount of pulling tension required to open the hood and fenders shall not exceed 30 lbs.		
5. Shall have a metal stone guard mounted behind the grill to protect the radiator.		
6. Shall have a circuit protected and labeled low hydraulic oil light mounted in the top row of the switch panel. See section VII.8 for specific mounting location.		
7. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger and an auxiliary sun visor on driver's side.		
g. Factory installed air conditioning.		
h. Shall have a digital and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
8. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch</u> . The mirrors shall be equipped with an 8 to 10 inch convex		
9. Shall be equipped with an air horn.		
10. Shall be equipped with cowl mounted, electric, intermittent windshield wipers		
11. Shall have a heavy-duty wiper motor with, snow clutch, and thermo protection.		
12. The wiper linkage shall be severe-duty formed linkage. Pressed steel linkage is not acceptable.		
13. The cab noise level shall not exceed 83 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed. This will be measured at time of compliance inspection.		
14. Shall be equipped with both interior and exterior, egress / ingress assist handles. on the driver's side and interior grab handles on the passenger side		
15. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. <u>Radio Installation:</u>		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed, the face of the radio shall not extend further than one inch out of the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable.		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EF J radio.		
10. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ radio.		
11. Connected to the 15amp dedicated radio power circuit shall be the EFJ radio		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
power wire (EFJ Part# 023-9750-010 or equal) extended to the EFJ radio mount plus 15 inches of additional wire.		
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3-amp and will be switched through the ignition switch and active in the run or accessory positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011 or equal) extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		
V. Seats		
1. Drivers and passenger seat shall be a cloth covered high back National air ride seat with air lumbar support and arm rest.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
VI. Fuel Tank:		
1. Shall have an 80-gallon fuel tank.		
2. The tank shall be equipped with two non-skid raised expanded metal steps.		
3. Shall be mounted on the left frame rail.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. Shall not extend past the back of the cab.		
VII. Electrical & Lighting Systems:		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab. In the event the manufacturer cannot mount the power distribution box(s) inside, the manufacturer will warranty each box for eight years.		
4. Batteries shall have at least 1,950 cold cranking amps (CCA) and be maintenance-free.		
5. The battery box cover shall be constructed of a non-metallic reinforced material. The batteries shall rest in a plastic tray and be protected by an additional plastic cover covering all of the batteries. This cover shall be secured by thumbscrews or wing nuts.		
6. The battery box shall be mounted on the right side frame rail as close to the cab as possible and 6 to 8 inches below the frame rail flange. This is measured from the highest point of the box to the top of the frame rail flange. WSDOT will evaluate various battery box locations if different than what is specified. The bidder must provide detailed drawings of the specific battery box location.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
7. All cable ends shall be sealed, and equipped with rubber retainers and covers. All battery cables exiting the battery box shall be routed through rubber grommets. .		
8. Shall have an additional OEM in dash 6 position switch panel powered by the ignition switch in both run and accessory positions. and all switches shall be on/off and configured as follows: All 6 switches shall be on the same row		
a. Shall have automatic circuit protection		
b. Shall be back lit, and labeled rocker panel switches		
c. Located on a separate OEM switch panel form the switches annotated in items “e, f, g, and h” below and located in the first position, shall be a labeled and AMBER in color “Shift Light”. This light will illuminate to indicate a transmission shift is needed to maintain engine RPM within the engines power band. The light will not illuminate in the top two gears. This will be a programmable feature using chassis electronics.		
d. Co-located with the shift light and in the fourth position (Shift Light and Hyd. light not side by side) will be a RED , factory installed labeled “Low Hydraulic Oil Light”. This light will be programmed to illuminate when the aux. hydraulic oil tank is low on fluid. Additionally the low air buzzer will intermittently sound in conjunction with the light. This will be a programmable feature using chassis electronics		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<p>Located on the additional switch panel shall be labeled switches as annotated below.</p> <p>e. Position 1 (Warning Light) amber in color.</p> <p>f. Position 2 (Work Light) amber in color.</p> <p>g. Position 3 (Alt Flash) amber in color.</p> <p>The chassis electronics will be programmed to turn off the alternating lights when the turn signal or brakes lights are applied. After the turn signal or the brakes are not engaged the alt. flashing lights will continue to operate normally.</p> <p>h. Position 4 shall be utilized to accommodate chassis alt flash electronic chassis programming.</p> <p>i. Positions 5 and 6 will be powered and not labeled</p>		
<p>j. Second switch (Work Light) amber in color.</p>		
<p>k. Third switch (Alt Flash) amber in color.</p> <p>The chassis electronics will be programmed to turn off the alternating lights when the turn signal or brakes lights are applied. After the turn signal or the brakes are not engaged the alt. flashing lights will continue to operate normally.</p>		
<p>l. The fourth switch shall be utilized to accommodate chassis alt flash electronic chassis programming</p>		
<p>m. Fifth, and Sixth switch positions will be powered but not labeled</p>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.		
10. A round 7-conductor, cable shall be wired from the main electrical panel to the rear of the chassis and terminate into a standard 7-pole <u>non metallic</u> trailer connector with ABS. (Conventional Wiring).		
11. The connection points on the 7-wire plug will be sealed and watertight. Both sides of this receptacle shall be packed with die-electric grease.		
12. Shall be equipped halogen headlamps.		
13. Shall have the manufacturers standard, LED tail lights and assemblies to include backup lights		
14. Shall have factory installed snow plow light wiring which will terminate at the forward portion of the frame rail and will be inside the engine compartment. Each end of this wiring shall have a weather pack connector.		
15. A labeled switch shall be installed that will allow the full operation of either the OEM headlights or the factory installed snowplow lights. This switch shall prevent operation of the two sets of headlamps simultaneously.		
16. Supplier splices into the factory wiring harness is unacceptable.		
VIII. Engine:		
1. Shall have a 330 gross hp at 2100 rpm and 1250 ft lbs torque at 1000 to 1200 RPM. The engine shall meet all Federal		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph at 1700 RPM.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with 1000-1500 watt 110 volt block heater with the plug-in receptacle located on the left side under the driver's door.		
5. Shall have a flange for a front crankshaft driven PTO.		
6. The engine shall be outfitted with a zinc nickel alloy oil pan.		
7. A driveline hole through the radiator is not acceptable.		
IX. Air Cleaner:		
1. Shall be dual element, dry-type, with fresh air intake.		
2. A vacuum, air restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. A cab controlled selector valve shall be located in the air cleaner that allows fresh air intake from outside of the vehicle during normal operations and from under		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
the hood during cold weather operations.		
4. The selector valve components shall not interfere with the hood operation (opening and closing).		
5. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. Engine Cooling System:		
1. Shall be equipped with a temperature controlled, two speed air clutch fan drive.		
2. Shall be cross flow, radiator with de-aeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Shall have long life Antifreeze with -34 ° of protection		
XI. Engine Exhaust System:		
1. Shall be a single horizontal muffler and vertical pipe. The vertical pipe shall not protrude more than 3-5 inches behind the cab.		
2. Shall have an under cab mounted horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		
XII. Transmission:		
1. Shall be an Eaton Fuller RTLO 12913A.		
2. The transmission shall be equipped with a		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
speed sensor cover with dual ports.		
3. Shall be equipped with a variable sound backup alarm (<u>High pitch and low pitch sound</u>).		
4. Shall be equipped with a two-piece clutch brake.		
5. Clutch to be an Eaton Spicer 15.5", 2-plate Easy – Pedal Plus II.		
XIII. Steering System:		
1. Shall have a dual Shepherd power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to <u>include tilt and telescopic</u> .		
XIV. Axles and Suspension:		
1. Front Axle shall be an 18,000 pound drive axle. The axle shall include a front axle engagement light, two-piece drive shaft, with heavy-duty double acting shock absorbers.		
2. Rear Axle shall have a 23,000 lbs. rating with a gear ratio to allow 65-mph, at 1700 RPM and a driver controlled traction differential Bidders shall offer various rear axle gear ratios at no cost.		
3. Shall have a vari-rate or progressive suspension with 31,000 lbs. capacity. Additionally the unit shall be equipped with 4,500 lbs., Multi-leaf auxiliary springs.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XV. Wheels and Tires:		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G622 RSD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches.		
3. All wheels shall be an Accuride steel wheel with an individual weight rating of at least 8,000 pounds per wheel.		
4. All wheels shall be powder coated.		
5. All wheels shall have wheel guards installed on all axles. This will include guards between the hub and the wheel as well as in-between each wheel. (Duals)		
6. Lead wheel weights are unacceptable		
7. All tires will be siped.		
XVI. Brake System:		
1. Shall be an anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear with shields installed.		
3. Haldex slack adjusters are not acceptable.		
4. Shall have outboard mounted brake drums, and the size of the drums will accommodate the manufacturers GVWR of the chassis. WSDOT will accept power disc brakes if offered.		
5. All brake blocks shall be non-asbestos.		
6. Shall have 30 sq. in. MGM TR-T series rear brake chambers.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
7. Shall have an. air compressor delivering at least 15 CFM with the intake plumbed to the filtered side of the air cleaner.		
8. Shall have the Rockwell Wabco System Saver 1200 air dryer, mounted on the right inside frame rail and 35 inches behind the cab.		
9. The air tank drain will be accessible from outside the frame rails.		
10. A trailer air supply line shall be routed to a distribution block.		
11. Chassis shall be equipped with a trailer hand control valve and a tractor protection valve.		
XVII Exterior Finish		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale rough or sharp edges or corners.		
2. The entire cab and chassis shall be painted National Safety Yellow (Sikkens 4039 or Equal).		
XVIII. Publications:		
1. Each unit shall be delivered with an operator's manual.		
XIV. Option Pricing		
1. <u>Pilot Inspection:</u>		
2. To curtail manufacturing errors prior to delivery, the successful bidder shall arrange and fully fund a three (3) day factory pilot inspection for two WSDOT representatives to review one of the completed chassis. Funded		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
expenses are to include coach class round trip airfare, ground transportation originating and terminating at the airport, 2 nights lodging, and meals.		
3. Air Ride Suspension		
4. Various wheelbase and cab to axle configurations		
5. A 24-inch under body plow clearance package with a clean CA.		
6. Left and Right side additional suspension capacity for wing plows.		
7. Twelve, (12) fourteen, (14) sixteen (16) and twenty (20) thousand pound front axles with corresponding suspension and tires.		
8. Optional rear suspensions, and rear axles <ul style="list-style-type: none"> a. Hendrickson HN suspension b. HS Chalmers suspensions. c. 21K 2 Speed Rear Axle d. 22K rear Axle e. 23K Rear Axle f. 26K rear Axle 		
9. Delete amount for Driver Controlled Diff. Lock		
10. Power Windows, Door Locks		
11. Alternative Engines for this class of chassis 2010 Federal Emissions compliant or certified engines with the use of UREA and SCR technology.		
Provide option pricing for various Horse Power engines within these ranges. <div style="display: flex; justify-content: space-around;"> Engine Non UREA UREA </div> <ul style="list-style-type: none"> a. 410 HP 1450 Torque _____ b. 430 HP 1550 Torque 		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
c. 475 HP 1700 Torque		
12. Delete front frame extension		
13. Set Back Front axle.		
14. 7/16 Frame Rail		
15. Aluminum Wheels		
16. Extended Cab and Crew cab configurations.		
17. Diagnostic software and hardware to include all required cabling.		
18. Dual 70 gallon Fuel tanks.		
19. Aluminum 80 Gallon fuel tank		
20. Single 100 Gallon fuel tank		
21. Deduct amount for the manufacturer's standard white paint.		
22. Delete Air Conditioning		
23. Delete WSDOT radio effects		
24. 13 speed Fuller Auto Shift		
25. 13 Speed Fuller Ultra Shift		
26. Delete Trailer Connections		
27. Add for an exterior Sun Visor		
28. Delete WSDOT battery configuration		
29. Vinyl seats		
30. Delete Bug Guard		
31. Delete Siped tires		
32. Delete snow plow headlight wiring		
33. Delete backup alarm		
34. Delete dash mounted shift light		
35. Delete dash mounted low hyd. oil light		
36. Delivery to Spokane		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
37. Delivery to Yakima		
38. Delivery to Wenatchee		
39. Delivery to Vancouver		
40. Delivery to Olympia		
41. Delivery to Seattle		
42. 135 AMP High output @ low RPM alternator		
43. Stationary passenger seat.		
44. Deluxe interior trim		
45. Transmission retarder		
46. Delete switchable air intake		
47. Longer or shorter wheel base in 10 inch increments.		
48. Various Allison automatic transmissions for this series of chassis		
49. Additional 6 position switch panel to include chassis programmable control box.		
50. A 13,500 pound steerable Lift Axle		
51. A metal battery box cover in lieu of the non metallic box cover.		
50. Left side battery box location.		

Item 4: Cab & Chassis - 58,000 GVW 6X4

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. Chassis, Load capacity and Measurements:		
1. Chassis load rating shall be 58,000 lbs (GVWR).		
2. Wheel Base shall be 194-198 inches with a set forward axle. State Wheel Base Bid		
3. Cab to Axle (CA) shall be at least 120 inches clear.		
4. Bumper to Back of Cab (Excluding extension) shall be within the range of 107 inches to 114 inches. State BBC Bid		
II. Frame:		
1. The entire length of the frame rails shall be full depth, including an integral front frame extension. <u>At least 24 inches</u> <u>WSDOT would need to know what this measurement is from each manufacturer</u>		
2. Both frame rails, from front to rear, shall have a section modulus of 30.00 and a RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be equal to or greater than 18.00 and a RBM of 2,000,000 in. lbs.		
4. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials State type of coating bid		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
5. There shall be no holes or bolts in the top flange of the frame rails.		
6. The left frame shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
7. Cross-members shall not be riveted to the frame rails; however cross-member components may be riveted to form a cross-member assembly.		
8. A front cross member shall be positioned and, drilled, to accommodate the mounting of a hydraulic pump and lines, without further modification.		
9. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		
III. Cab and Related Equipment:		
1. Shall have an air ride premium cab to include the following <ul style="list-style-type: none"> a. Insulated Engine Cover b. Insulated Floor c. Molded header pockets for the driver and passenger sides d. Reading Light e. Door storage pockets f. Courtesy lights under instrument panel. g. Coaxial speakers. h. Two factory mounted speakers for the CB 		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
2. Cab shall have at least 21 inches of clear space between the driver and passenger seat.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. The amount of pulling tension required to open the hood and fenders shall not exceed 30 lbs.		
5. Shall have a metal stone guard mounted behind the grill to protect the radiator.		
6. Shall have a circuit protected and labeled low hydraulic oil light. Mounted in the top row of the switch panel. See section VII.8 for specific mounting location.		
7. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger and an auxiliary sun visor on driver's side.		
g. Factory installed air conditioning.		
h. Shall have a digital and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
8. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch</u> . The mirrors shall be equipped with an 8 to 10 inch convex		
9. Shall be equipped with an air horn.		
10. Shall be equipped with cowl mounted, electric, intermittent windshield wipers.		
11. Shall have a heavy-duty wiper motor with, snow clutch, and thermo protection.		
12. The wiper linkage shall be severe-duty formed linkage. Pressed steel linkage is not acceptable.		
13. The cab noise level shall not exceed 83 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed. This will be measured at time of compliance inspection		
14. Shall be equipped with both interior and exterior, egress / ingress assist handles. on the drivers side and interior grab handles on the passenger side		
15. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. <u>Radio Installation:</u>		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed, the face of the radio shall not extend further than one inch out of the pocket.		
17. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
18. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
19. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		
20. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
21. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable.		
22. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EFJ radio.		
23. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ Radio.		
24. Connected to the 15-amp dedicated radio power circuit shall be the EFJ radio		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
power wire (EFJ Part# 023-9750-010 or equal) extended to the EFJ radio mount plus 6 inches of additional wire.		
25. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3 amp switched through the ignition switch, and active in the run or accessory positions.		
26. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011 or equal) extended to the radio mount plus 15 inches of additional wire.		
27. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
28. Shall have the manufacturers standard CB radio mounting package to include an OEM speaker located in close proximity to the operator.		
29. Each mirror bracket will be outfitted with a CB radio antenna base.		
V. Seats		
1. Driver and passenger seat shall be a cloth covered high back National air ride seat with air lumbar support and arm rest.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
VI. Fuel Tank:		
1. Shall have an 80-gallon fuel tank.		
2. The tank shall be equipped with two non-skid raised expanded metal steps.		
3. Shall be mounted on the left frame rail.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. Shall not extend past the back of the cab.		
VII. <u>Electrical & Lighting Systems:</u>		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab. In the event the manufacturer cannot mount the power distribution box(s) inside, the manufacturer will warranty each box for eight years.		
4. Batteries shall have at least 1,950 cold cranking amps (CCA) and be maintenance-free.		
5. The battery box cover shall be constructed of a non-metallic reinforced material. The batteries shall rest in a plastic tray and be protected by an additional plastic cover covering all of the batteries. This cover shall be secured by thumbscrews or wing nuts.		
6. The battery box shall be mounted on the right side frame rail as close to the cab as possible and 6 to 8 inches below the frame rail flange. This is measured from the highest point of the box to the top of the frame rail flange. WSDOT will evaluate various battery box locations if different than what is specified. The bidder must provide a detailed drawing of the specific battery box locations.		
7. All cable ends shall be sealed, and		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
equipped with rubber retainers and covers. All battery cables exiting the battery box shall be routed through rubber grommets.		
8. Shall have an additional OEM in dash 6 position switch panel powered by the ignition switch in both run and accessory positions. and all switches shall be on/off and configured as follows: All 6 switches shall be on the same row		
a. Shall have automatic circuit protection		
b. Located on a separate OEM switch panel form the switches annotated in items “e, f, g, and h” below and located in the first position, shall be a labeled and AMBER in color “Shift Light”. This light will illuminate to indicate a transmission shift is needed to maintain engine RPM within the engines power band. The light will not illuminate in the top two gears. This will be a programmable feature using chassis electronics.		
c. Co-located with the shift light and in the fourth position (Shift Light and Hyd. light not side by side) will be a RED , factory installed labeled “Low Hydraulic Oil Light”. This light will be programmed to illuminate when the aux. hydraulic oil tank is low on fluid. Additionally the low air buzzer will intermittently sound in conjunction with the light. This will be a programmable feature using chassis electronics.		
d. Located on the additional switch panel shall be labeled switches as annotated below.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<p>e. Position 1 (Warning Light) amber in color.</p> <p>f. Position 2 (Work Light) amber in color.</p> <p>g. Position 3 (Alt Flash) amber in color.</p> <p>The chassis electronics will be programmed to turn off the alternating lights when the turn signal or brakes lights are applied. After the turn signal or the brakes are not engaged the alt. flashing lights will continue to operate normally.</p> <p>h. Position 4 shall be utilized to accommodate chassis alt flash electronic chassis programming.</p> <p>i. Positions 5 and 6 will be powered and not labeled</p>		
<p>9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.</p>		
<p>10. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a standard 7-pole non metallic trailer connector with ABS. (Conventional Wiring).</p>		
<p>11. The connection points on the 7-wire plug will be sealed and watertight. Both sides of this receptacle shall be packed with die-electric grease.</p>		
<p>12. Shall be equipped halogen headlamps</p>		
<p>13. Shall have the manufacturers standard, LED tail lights and assemblies to include backup lights</p>		
<p>14. Shall have factory installed snow plow light wiring which will terminate at the forward portion of the frame rail and will be inside the engine compartment. Each</p>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
end of this wiring shall have a weather pack connector.		
15. A labeled switch shall be installed that will allow the full operation of either the OEM headlights or the snowplow lights. This switch shall prevent operation of the two sets of headlamps simultaneously.		
16. Supplier splices into the factory wiring harness is unacceptable		
VIII. Engine:		
1. Shall have a 390 gross hp at 2100 rpm and 1400 ft lbs torque at 1000 to 1200 RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph at 1700 RPM.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with 1000-1500 watt 110 volt block heater with the plug-in receptacle located on the left side under the driver's door.		
5. Shall have a flange for a front crankshaft driven PTO.		
6. The engine shall be outfitted with a zinc nickel alloy oil pan.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
7. A driveline hole through the radiator is not acceptable.		
IX. <u>Air Cleaner:</u>		
1. Shall be dual element, dry-type, with fresh air intake.		
2. A vacuum, air restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. A cab controlled selector valve shall be located in the air cleaner that allows fresh air intake from outside of the vehicle during normal operations and from under the hood during cold weather operations.		
4. The selector valve components shall not interfere with the hood operation (opening and closing).		
5. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. <u>Engine Cooling System:</u>		
1. Shall be equipped with a temperature controlled, two speed air clutch fan drive.		
2. Shall be cross flow radiator with de-aeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Shall have long life Antifreeze with -34 ° of protection		
XI. <u>Engine Exhaust System:</u>		
1. Shall be a single horizontal muffler and vertical pipe. The vertical pipe shall not		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
protrude more than 3-5 inches behind the cab.		
2. Shall have an under cab mounted horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		
XII. <u>Transmission:</u>		
1. Shall be an Eaton Fuller RTLO 14918B.		
2. The transmission shall be equipped with a speed sensor cover with dual ports.		
3. Shall be equipped with a variable sound backup alarm (<u>High pitch and low pitch sound</u>).		
4. Shall be equipped with a two-piece clutch brake.		
5. Clutch to be an Eaton Spicer 15.5", 2-plate Easy –Pedal Plus II clutch.		
XIII. <u>Steering System:</u>		
1. Shall have a dual power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to include tilt and telescopic.		
XIV. <u>Axles and Suspension:</u>		
1. <i>Front Axle</i> shall be an 18,000 lbs. axle, with heavy-duty double acting shock absorbers.		
2. <i>Rear Axle</i> shall have a Hendrickson RT-		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
403 suspension, with rubber bushings, and a 40,000 pound rating, with a gear ratio to allow 65 MPH at 1700 RPM Bidders shall offer various rear axle gear ratios at no cost.		
3. The rear axle shall be equipped with a lube pump.		
4. Shall have an air activated rear axle power divider lock with indicator light.		
XV. <u>Wheels and Tires:</u>		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G622 RSD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches.		
3. All wheels shall be an Accuride steel wheel with an individual weight rating of at least 8,000 pounds per wheel.		
4. All wheels shall be powder <u>coated with white paint</u> .		
5. All wheels shall have wheel guards installed on all axles. This will include guards between the hub and the wheel as well as in-between each wheel. (Duals)		
6. Lead wheel weights are unacceptable		
7. All tires will be siped.		
XVI. <u>Brake System:</u>		
1. Shall be an anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
brakes front and rear, with shields installed.		
3. Haldex slack adjusters are not acceptable.		
4. Shall have outboard mounted brake drums, and the size of the drums will accommodate the manufacturers GVWR of the chassis. WSDOT will accept power disc brakes if offered.		
5. All brake blocks shall be non-asbestos.		
6. Shall have 30 sq. in. MGM TR-T series rear brake chambers.		
7. Shall have an. air compressor delivering at least 15 CFM with the intake plumbed to the filtered side of the air cleaner.		
8. Shall have the Rockwell Wabco System Saver 1200 air dryer, mounted on the right inside frame rail and 45 to 53 inches behind the cab.		
9. The air tank drain will be accessible from outside the frame rails.		
10. A trailer air supply line shall be routed to a distribution block.		
11. Chassis shall be equipped with a trailer hand control valve and a tractor protection valve.		
XVII. Exterior Finish		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale, rough or sharp edges or corners.		
2. The entire cab and chassis shall be painted National Safety Yellow (Sikkens 4039 or Equal).		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XVIII. Publications:		
1. Each unit shall be delivered with an operator's manual.		
XXIV. Option Pricing		
<u>Pilot Inspection:</u>		
To curtail manufacturing errors prior to delivery, the successful bidder shall arrange and fully fund a three (3) day factory pilot inspection for two WSDOT representatives to review one of the completed chassis. Funded expenses are to include coach class round trip airfare, ground transportation originating and terminating at the airport, 2 nights lodging, and meals.		
1. Air Ride Suspension		
2. Various wheelbase and cab to axle configurations		
3. A 24-inch under body plow clearance package with a clean CA.		
4. Left and Right side additional suspension capacity for wing plows.		
5. Twelve, (12) fourteen, (14) sixteen (16) and twenty (20) thousand pound front axles with corresponding suspension and tires.		
6. Optional rear suspensions. <ul style="list-style-type: none"> a. Hendrickson HN suspension b. HS Chalmers suspensions. c. RT 463 Hendrickson 46,000 pound rear suspension 		
7. Delete amount for Driver Controlled Diff. Lock		
8. Power Windows, Door Locks		
9. Alternative Engines for this class of chassis		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
2010 Federal Emissions compliant or certified engines with the use of UREA and SCR technology.		
10. Provide option pricing for various Horse Power engines within these ranges. <div style="display: flex; justify-content: space-around;"> Engine Non UREA UREA </div> a. 410 HP 1450 Torque _____ b. 430 HP 1550 Torque _____ c. 475 HP 1700 Torque _____		
11. Delete front frame extension		
12. Set Back Front axle.		
13. 7/16 Frame Rail		
14. Aluminum Wheels		
15. Extended Cab and Crew cab configurations.		
16. Engine diagnostic software and hardware to include all required cabling.		
17. Dual 70 gallon Fuel tanks.		
18. Aluminum 80 Gallon fuel tank		
19. Single 100 Gallon fuel tank		
20. Deduct amount for the manufacturers' standard white paint.		
21. Delete Air Conditioning		
22. Delete WSDOT radio effects		
23. 18 speed Fuller Auto Shift		
24. 18 Speed Fuller Ultra Shift		
25. 13 Speed Fuller Manual Transmission		
26. HD series Allison Automatic Transmission		
27. Delete Trailer Connections		
28. Add for an exterior Sun Visor		
29. Delete WSDOT battery configuration		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
30. Vinyl seats		
31. Delete Bug Guard		
32. Delete Siped tires		
33. Delete snow plow headlight wiring		
34. Delete backup alarm		
35. Delete dash mounted shift light		
36. Delete dash mounted low hyd. oil light		
37. Delivery to Spokane		
38. Delivery to Yakima		
39. Delivery to Wenatchee		
40. Delivery to Vancouver		
41. Delivery to Olympia		
42. Delivery to Seattle		
43. 135 AMP High output @ low RPM alternator		
44. Stationary passenger seat.		
45. Deluxe interior trim		
46. Automatic Transmission retarder		
47. Delete switchable air intake		
48. Longer or shorter wheel base in 10 inch increments.		
49. Additional 6 position switch panel to include chassis programmable control box.		
50. Left side battery box location.		
51. Tractor Options		
a. Cab controlled air slide Holland fifth wheel plate. The fifth wheel plate shall rise above the frame rails of the chassis by 7.6 inches. ¼ fenders & Flaps.		
b. Pro Tech model 10-1000 aluminum cab guard with chain binder holding locking		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
brackets and a rear view window opening.		
c. Work light mounted on each upper corners of the cab guard. The work lights shall be individually controlled within the cab.		
d. Two Ecco LED strobe lights mounted on the outboard side of each work light.		
52. A 13,500 pound steerable Lift Axle		
53. A metal battery box cover in lieu of the non metallic box cover.		
54. A battery combination of 2750 CCA capability in lieu of the 1950 CCA		

Item 5: Cab & Chassis - 64,000 GVW 6X4

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. Chassis, Load capacity and Measurements:		
1. Chassis load rating shall be 64,000 lbs (GVWR).		
2. Wheel Base shall be 224 inches, with a set forward axle. State Wheel Base Bid		
3. Cab to Axle (CA) shall be at least 138 inches clear.		
II. Frame:		
1. The entire length of the frame rails shall be full depth, including an integral front frame extension. <u>At least 24 inches WSDOT would need to know what this measurement is from each manufacturer.</u>		
2. Both frame rails, from front to rear, shall have a section modulus of 30.00 and a RBM of 3,300,000 in. lbs.		
3. The section modulus at the engine cut outs shall be equal to or greater than 18.00 and a RBM of 2,000,000 in. lbs.		
4. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials State type of coating bid		
5. There shall be no holes or bolts in the top flange of the frame rails.		
6. Cross-members shall not be riveted to the		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
frame rails; however cross-member components may be riveted to form a cross-member assembly.		
7. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		
III. Cab and Related Equipment:		
1. Shall have an air ride premium cab to include the following <ul style="list-style-type: none"> a. Insulated Engine Cover b. Insulated Floor c. Molded header pockets for the driver and passenger sides d. Reading Light e. Door storage pockets f. Courtesy lights under instrument panel. g. Coaxial speakers. h. Two factory mounted speakers for the CB 		
2. Shall be a manufacturer's standard <u>aluminum or steel</u> cab with at least 18 inches of clear space between the driver and passenger seat.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. Shall have a metal stone guard mounted behind the grill to protect the radiator.		
5. The unit shall be equipped with the following:		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for driver side		
g. Factory installed air conditioning.		
h. Shall have a digital and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		
8. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch</u> . The mirrors shall be equipped with an 8 to 10 inch convex		
9. Shall be equipped with an air horn.		
10. Shall be equipped with cowl mounted, electric, intermittent windshield wipers.		
11. Shall have a heavy-duty wiper motor.		
12. The wiper linkage shall be severe-duty formed linkage. Pressed steel linkage is not acceptable.		
13. The cab noise level shall not exceed 83 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed. This will be measured at time of compliance inspection		
14. Shall be equipped with left and right egress / ingress assist handles		
15. Shall be equipped with an AM/FM Radio		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
with Weather Band.		
IV. Radio Installation:		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed, the face of the radio shall not extend further than one inch out of the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base and at the tip of the antenna when a body cab shield is used.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable.		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EFJ radio.		
10. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ Radio.		
11. Connected to the 15-amp dedicated radio power circuit shall be the EFJ radio power wire (EFJ Part# 023-9750-010 or equal) extended to the EFJ radio mount plus 6 inches of additional wire.		
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3 amp switched through the ignition switch, and active in the run or accessory positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011 or equal) extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio mounting package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
V. Seats		
1. Driver and passenger seat shall be a cloth covered high back National model 195 air ride seat with three chamber air lumbar support, arm rest, isolator, adjuster, six way front adjustable with a three way rear cushion		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
VI. Fuel Tank:		
1. Shall have a 100-gallon fuel tank.		
2. The tank shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the frame rail and under the cab.		
4. Shall not extend past the back of the cab in excess of 8 inches.		
VII. Electrical & Lighting Systems:		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system with a high output low RPM alternator.		
3. Batteries shall have at least 1,950 cold cranking amps (CCA) and be maintenance-free.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
4. The battery box cover shall be constructed of a non-metallic reinforced material.		
5. The battery box shall be frame rail mounted, under cab.		
6. All cable ends shall be sealed, and equipped with rubber retainers and covers.		
7. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a standard 7-pole <u>non metallic</u> trailer connector with ABS. (Conventional Wiring).		
8. The connection points on the 7-wire plug will be sealed and watertight. Both sides of this receptacle shall be packed with die-electric grease.		
9. Shall be equipped halogen headlamps		
10. Supplier splices into the factory wiring harness is unacceptable		
VIII. Engine:		
1. Shall have a 450 gross hp at 1800 rpm and 1550 ft lbs torque at 1200 RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph at 1700 RPM.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with 1000-1500 watt 110 volt block heater with the plug-in receptacle located on the left side under the driver's door.		
IX. Air Cleaner:		
1. Shall be dual element, dry-type, with fresh air intake.		
2. An air restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. Engine Cooling System:		
1. Shall be equipped with a temperature controlled, two speed air clutch fan drive with switchable on/off cab controls.		
2. Shall be cross flow radiator with de-aeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Shall have long life Antifreeze with -34 ° of protection		
XI. Engine Exhaust System:		
1. Shall be a single horizontal muffler and vertical pipe.		
2. Shall have an under cab mounted		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 to 124 inches from the ground to the highest point of the tip out when the truck is empty.		
XII. Transmission:		
1. Shall be an Eaton Fuller 18 speed transmission with the <u>appropriate torque rating for the specified engine</u>		
2. The transmission shall be equipped with a speed sensor cover with dual ports.		
3. Shall be equipped with a variable sound backup alarm (<u>High pitch and low pitch sound</u>).		
4. Shall be equipped with a two-piece clutch brake.		
5. Clutch to be an Eaton Spicer 15.5", 2-plate Easy –Pedal Plus II clutch.		
XIII. Steering System:		
1. Shall have a dual power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to <u>include tilt and telescopic</u> .		
XIV. Axles and Suspension:		
1. Front Axle shall be an 18,000 lbs. axle, with heavy-duty double acting shock absorbers.		
2. Rear Axle shall have a Hendrickson HMX 460-54 suspension, with rubber		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
bushings, and a 46,000 pound rating, with a gear ratio to allow 65 MPH at 1700 RPM. Bidders shall offer various rear axle gear ratios at no cost.		
3. The rear axle shall be equipped with an air operated, dash controlled rear axle interlock and lube pump.		
4. Shall have driver controlled traction in the front axle group.		
XV. Wheels and Tires:		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G622 RSD 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches.		
3. All wheels shall be an Accuride steel wheel with an individual weight rating of at least 8,000 pounds per wheel.		
4. All wheels shall be powder coated <u>with white paint</u> .		
5. All wheels shall have wheel guards installed on all axles. This will include guards between the hub and the wheel as well as in-between each wheel. (Duals)		
6. Lead wheel weights are unacceptable		
7. All tires will be siped.		
XVI. Brake System:		
1. Shall be an anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear, with shields		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
installed.		
3. Haldex slack adjusters are not acceptable.		
4. Shall have outboard mounted brake drums, and the size of the drums will accommodate the manufacturers GVWR of the chassis. WSDOT will accept power disc brakes if offered.		
5. All brake blocks shall be non-asbestos.		
6. Shall have 30 sq. in. MGM TR-T series rear brake chambers.		
7. Shall have an 18 to 20 C.F.M. air compressor with intake plumbed to the filtered side of the air cleaner.		
8. Shall have the Rockwell Wabco System Saver 1200 air dryer,		
9. The air tank drain will be accessible from outside the frame rails.		
<u>XVII. Exterior Finish</u>		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale, rough or sharp edges or corners.		
2. The entire cab and chassis shall be painted National Safety Yellow (Sikkens 4039 or Equal).		
<u>XVIII. Publications:</u>		
1. Each unit shall be delivered with an operator's manual.		
<u>XIV. Option Pricing</u>		
<u>Pilot Inspection:</u>		
To curtail manufacturing errors prior to delivery, the successful bidder shall arrange		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives												
and fully fund a three (3) day factory pilot inspection for two WSDOT representatives to review one of the completed chassis. Funded expenses are to include coach class round trip airfare, ground transportation originating and terminating at the airport, 2 nights lodging, and meals.														
1. Set back axle configuration ILO set forward														
2. Cab to axle and frame options														
3. Over 138" CA with front frame extension														
4. Delete Fixed grille														
5. Provide front PTO provisions														
6. Provide front frame extension														
7. Cummins ISX 450 hp @ 1650 Torque														
8. Cummins ISX 475 hp @ 2000 rpm														
9. Provide option pricing for various Horse Power engines within these ranges.														
<table> <tr> <th>Engine</th><th>Non UREA</th><th>UREA</th></tr> <tr> <td>a. 410 HP 1450 Torque</td><td>_____</td><td>_____</td></tr> <tr> <td>b. 430 HP 1550 Torque</td><td>_____</td><td>_____</td></tr> <tr> <td>c. 475 HP 1700 Torque</td><td>_____</td><td>_____</td></tr> </table>	Engine	Non UREA	UREA	a. 410 HP 1450 Torque	_____	_____	b. 430 HP 1550 Torque	_____	_____	c. 475 HP 1700 Torque	_____	_____		
Engine	Non UREA	UREA												
a. 410 HP 1450 Torque	_____	_____												
b. 430 HP 1550 Torque	_____	_____												
c. 475 HP 1700 Torque	_____	_____												
10. Anti lock brake system (4-channel) w/ traction control														
11. Rear axle options:														
12. 40,000 tandem rear axle & suspension														
13. Hendrickson HS air suspension														
14. Hendrickson RT suspension														
15. 11 X 24.5 rear tires and wheels with G622 RSD														
16. 14000 lb. Front axle ILO 18000 bid with 12X22.5 16 pr G159 Goodyear														
17. 20000 lb. Front axle ILO 18000 bid with 425/65 22.5 20 pr G286 Goodyear Tires on														

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
12.25 "		
18. 16000 lb. Front axle ILO 18000 bid with 385/65R22.5 Goodyear Tires		
19. Aluminum front wheels ILO steel		
20. Allison HD4500 6 speed.		
21. RTO-14908LL		
22. Set back Front Axle		
23. 7'16 Frame Rail		
24. 18 speed Fuller Auto Shift		
25. 18 Speed Fuller Ultra Shift		
26. Delete air conditioning		
27. Vinyl seat covering ILO fabric		
28. Alternate cab color (solid color)		
29. Power windows		
30. WSDOT type radio effects radio prep. Package and antenna (800 mz)		
31. Stationary passenger seat (to match driver) (Not as deluxe)		
32. Service manual for chassis on CD		
33. Expanded metal stone guard		
34. Relocate air dryer inside right frame rail 35" BOC		
35. Sweep style air restriction indicator ILO Filter minder		
36. Reconfigure batteries w/ trays, caps, in line style		
37. Add exterior visor		
38. Tractor Options:		
Cab controlled air slide Holland fifth wheel plate. The fifth wheel plate shall rise above the frame rails of the chassis by 7.6 inches.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
Pro Tech model 10-1000 aluminum cab guard with chain binder holding locking brackets and a rear view window opening.		
Work light mounted on each upper corners of the cab guard. The work lights shall be individually controlled within the cab.		
Two Echo 6665 A strobe lights mounted on the outboard side of each work light.		
39. Selector valve for under hood air intake:		
40. T-Handle gear selector for Allison Transmission:		
41. 20,000 lb. front suspension with 18,000 axle options:		
42. Truck-lite 44 Series LED taillights with Super 40 backup lights:		
43. Factory auxiliary headlight wiring:		
44. 6 in-cab dash mounted switches:		

Item 6: Truck; Flatbed; Traffic Control

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<u>I. General:</u>		
1. The intent of this specification is to describe the WSDOT requirements for a <u>Low Profile</u> Traffic Control Vehicle.		
<u>II. Chassis:</u>		
1. Shall have a 25,500 lb. GVWR with a wheel base of 175 inches and a Cab to axle of 108 inches.		
2. Bidders shall provide optional wheelbase and Ca combinations.		
<u>III. Frame:</u>		
1. Shall be 80,000-psi steel.		
2. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials.		
3. There shall be no holes or bolts in the top flange of the frame rails		
4. Frame cross-members shall be fastened to the frame rails using huck bolts.		
5. Shall have a black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		
<u>III. Cab and Related Equipment:</u>		
1. Shall be a manufacturer's premium cab		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
with at least 21 inches of clear space between the driver and passenger seat.		
2. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
3. There shall be a metal stone guard, mounted behind the grill to protect the radiator.		
4. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger.		
g. Factory installed air conditioning.		
h. Shall have a digital, and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		
5. Dual heated and motorized <u>bright finished rearview mirrors measuring at least 7 x 15.75 inch</u> . The mirrors shall be equipped with an 8 to 10 inch convex		
6. Shall be equipped with an air horn.		
7. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a heavy-duty wiper motor(s).		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
8. The wiper linkage shall be heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
9. The cab noise level shall not exceed 84 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
10. Shall be equipped with interior and exterior left and right egress / ingress assist handles. The passenger side doesn't need the exterior grab handle due to the exhaust pipe.		
11. Shall have interior overhead molded console with pockets on each side.		
12. Shall have a factory installed exterior sun visor.		
13. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. Radio Installation:		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the operator and be within arms reach of an average person.		
3. When installed; the face of the radio shall not extend further than one inch out of		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EF J radio.		
10. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ Radio.		
11. Connected to the 15-amp EFJ dedicated radio power circuit shall be a power wire (EFJ Part# 023-9750-010 or equal) extended to radio mount plus 15 inches of additional wire.		
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3-amp and switched through the ignition switch and active in the run or accessory		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011) or equal extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		
<u>V. Seats</u>		
1. Both the driver and passenger seats shall be a cloth covered high back National air ride to include air lumbar supports and armrests.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
<u>VI. Fuel Tank:</u>		
1. Shall have a 50-gallon fuel tank.		
2. The tank shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the left frame rail.		
4. Shall not extend past the back of the cab.		
<u>VII. Electrical & Lighting Systems:</u>		
1. All chassis lighting shall be conventional lighting (International lighting is not		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab. In the event the manufacturer cannot mount the power distribution box(s) inside, the manufacturer will warranty each box for eight years.		
4. Batteries shall have <u>at least 1,850 to 1,900 cold cranking amps (CCA)</u> and be maintenance-free.		
5. The batteries shall rest in a plastic tray, and be protected by an additional plastic cover, covering all of the batteries. This cover shall be secured by thumbscrews or wing nuts.		
6. The battery box shall be mounted, beneath the passenger side door.		
7. All battery cables exiting the battery box shall be routed through rubber grommets.		
8. Shall have an in dash six position switch panel. They shall operate from the ignition switch in both run and accessory positions and all switches shall be on/off and configured as follows: All six switches shall be on the same row		
a. Automatic circuit protection		
b. Back lit, and labeled rocker panel switches		
9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.		
10. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
standard 7-pole trailer connector with ABS. (Conventional Wiring).		
11. The connection points on the 7-wire plug will be sealed and watertight.		
12. Shall be equipped halogen headlamps.		
13. Shall have the manufacturer's standard, LED tail lights and assemblies to include backup lights.		
14. The programmable chassis controller (<u>Allows the ability to program chassis functions such as switches</u>) shall be located inside the chassis cab behind the passenger seat and elevated approximately and 3 to 4 inches above the cab floor.		
15. Supplier splices into the factory wiring harness is unacceptable and may be grounds for bid rejection.		
VIII. Engine:		
1. Shall be with at least 310-gross hp at 2000rpm. The engine shall deliver 950 ft lbs torque at 1200RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
3. Shall be equipped with 1250 watt 110 volt block heater, with the plug-in		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
receptacle located on the left side under the driver's door.		
IX. Air Cleaner:		
1. Shall be dual element, dry-type, with fresh air intake.		
2. An air cleaner restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. Engine Cooling System:		
1. Shall be equipped with a temperature controlled, air clutch fan drive.		
2. Radiator shall be a cross flow with deaeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Antifreeze protection shall be at least -34°.		
XI. Engine Exhaust System:		
1. Shall be a single horizontal muffler and vertical pipe.		
2. Shall have an under cab mounted horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
<u>XII. Transmission:</u>		
1. Shall be an Allison 3000RDS 6 speed with PTO provision.		
2. The transmission shall be equipped with a speed sensor cover with dual ports.		
3. Shall be equipped with a variable sound backup alarm (<u>High pitch and low pitch sound</u>).		
<u>XIII. Steering System:</u>		
1. Shall have a power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable to include tilt and telescopic.		
<u>XIV. Axles and Suspension:</u>		
1. Front: 8,000 lbs. with Stemco type seals with replaceable window and components.		
2. Rear: 17,500 lbs. with a gear ratio to allow a maximum of 65-mph at maximum engine RPM and magnetic trap drain plug.		
<u>XV. Wheels and Tires:</u>		
1. Front and rear wheels shall be hub piloted 7.50 in., 10-hole disk wheels for 245/75 R22.5 LRG tires. Shall meet FMVSS 120 for tubeless radial tires.		
2. Tires shall be 245/75R22.5 LRG 14 ply steel belted tires.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
3. The front tires shall be G149 Goodyear.		
4. The rear tires shall be G124 M+S Goodyear.		
XVI. Brake System:		
1. Shall be a Bendix anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear, with shields installed.		
3. Shall be 15 in. x 4 in. front brakes.		
4. Shall be 16.5in. X 7in. rear brakes.		
5. All brake blocks shall be non-asbestos.		
6. Shall be sealed internal breathing design.		
7. Shall have 30 sq. in. MGM TR-TS series rear brake chambers		
8. Shall have a 13 to 18 C.F.M. air compressor, with intake plumbed to the filtered side of the air cleaner.		
9. Shall have the Rockwell Wabco System Saver 1200 air dryer.		
10. The air tank drain will be accessible from outside the frame rails.		
11. A trailer air supply line supply shall be routed to a distribution block <u>or to the rear of the truck with glad hands</u> .		
12. Chassis shall be equipped with a trailer hand control valve, and a tractor protection valve.		
XX. Publications:		
1. Each unit shall be delivered with an operator's manual.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
2. Bidders shall provide the Service and Parts Manuals for this unit, as annotated below. <u>1</u> Parts Manual <u>1</u> Service Manual		
XXI. Option Pricing		
1. 120,000 PSI Frame .312"		
2. Bolted Front Frame Ext.		
3. Chrome bumper		
4. Additional rear cross member for longer wheelbases		
5. Wheel bases over 197"		
6. Rear axle options a. 23,000 lb. rear axle, without traction control b. 26,000 Lb c. 19,000 Lb d. 21,000 Lb.		
7. Front axle options a. 10,000 LB b. 12,000 LB c. 14,000 LB		
8. Driver controlled traction Diff.		
9. Air suspension on rear axle		
10. Delete trailer air brake connections		
11. Engine brake		
12. Engine Options NON UREA UREA a. 210 HP w/560 Torque _____ b. 225 HP w/560 torque _____ c. 245 HP w/645 Torque _____ d. 285 HP w/800 Torque _____		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
13. Add Additional Switch Pack & Power Module		
14. Dual 50 gallon ILO single 50 gallon fuel tank		
15. Air Suspension high back driver and fixed position passenger seat		
16. 1/3-2/3 Driver passenger seat with storage under stationary driver's seat		
17. Power windows and locks		
18. Delete 800 mhz radio accommodation package w/antenna base, bracket, mike clip and harness		
19. Delete CB equipment		
20. Delete Air conditioning		
21. Extended cab with approx. 25" extension		
22. Crew Cab 4-Doors and rear bench seat		
23. Provide application of door decals		
24. Diagnostic engine software and necessary cables for attaching to PC		
25. Diagnostic transmission software and necessary cables for attaching to PC		
26. Delete exterior visor		
27. 4X4 Option		
28. Manual Transmission		
29. Body Configuration Options: Remote Engine Control Boom & Outrigger Warnings Remote Engine Stop & Start PTO Controls		

F.3 SPECIFICATION REQUIREMENTS

**SPECIFICATIONS SHEETS MUST BE RETURNED WITH BID OR MAY RESULT IN
BID REJECTION**

SEGMENT B

Item 1

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
1. Chassis, Load capacity and Measurements:		
a. Chassis load rating shall be 37,000 lbs. (GVWR).		
b. Wheel Base shall be 163"		
c. Cab to Axle (CA) shall be 96"		
d. Bumper to back of cab to be 102-107"		
2. Frame:		
a. The entire length of the frame rails shall be full depth.		
b. Both frame rails, from front to rear, shall be constructed with 120,000 psi steel, with a minimum section modulus of 22.00 and a minimum RBM of 2,600,000 in. lbs.		
c. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
d. There shall be no holes or bolts in the top flange of the frame rails. There should be no holes full length on top flange.		
e. The left frame rail shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
f. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
g. Shall have a formed steel front bumper, with two front tow loops or hooks accessible through the bumper.		
3. Cab and Related Equipment:		
a. Shall be a manufacturer's premium cab with at least 21 inches of clear space between the driver and passenger seat.		
b. Exterior of the Cab shall be painted with Sikkens basecoat /clear coat Omaha Orange 0311 or equal.		
c. Three-piece bonded hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
d. When the hood and fenders are tilted forward, the grill shall not come in contact with the front frame extension.		
e. There shall be a metal mesh protective screen, mounted behind the grill to protect the radiator.		
f. The unit shall be equipped with the following:		
1. Engine voltmeter		
2. Engine oil pressure gauge.		
3. Tachometer, and Hour-meter.		
4. Engine coolant temperature gauge.		
5. High output heater w/fresh air selection. The heater shall have a 30,000 BTU rating.		
6. Dual Sun visors for both driver and passenger.		
7. Factory installed air conditioning with particulate filter and electronic auto protection for low refrigerant.		
8. Visual and audible low oil pressure / high coolant temperature warning system.		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
g. Dual, heated 7 x 17.75" <u>approximately</u> with Integral 7.4" sq convex rearview mirrors. Both side mirrors shall be motorized. The mirrors shall be equipped with minimum 8-inch heated convex spot mirrors. Both mirrors to be designed to break away when hit from front or rear to minimize damage to mirrors and door structure.		
h. Shall be equipped with an air horn mounted under cab.		
i. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).		
j. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
k. The cab noise level shall not exceed 84 dba inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
l. Shall be equipped with left and right egress / ingress assist handles. Additional Left side exterior handle with rubber insert, for safety.		
m. Shall be equipped with an AM/FM Radio, with weather band.		
n. Overhead molded plastic console, with dual storage pockets, radio mounting pocket with hold-down, electronic compass and outside temp display.		
o. To have a factory installed exterior sun-visor painted to match cab.		
p. To include functional vent windows in cab.		
4. Seats:		
a. Both the driver and passenger seats shall be a cloth covered high back National air ride to include air lumbar supports. To have armrests on inside (toward center) of each seat.		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
b. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors in orange color.		
5. Electrical & Lighting Systems:		
<i>Note: All chassis lighting shall be conventional lighting (International lighting is not acceptable (European or DIN)). Chassis wiring must be color-coded and continuously numbered.</i>		
a. Shall be a 12-volt system with 110-amp alternator.		
b. Batteries shall have at least <u>1,850</u> to 1,900 cold cranking amps (CCA) and be maintenance-free including rubber retainer and covers.		
c. The battery box cover shall be constructed of a non-metallic reinforced material to include a remote jump stud.		
d. The battery box shall be frame rail mounted under cab.		
f. Shall have a, programmable six-position auxiliary switch panel. They shall operate from the ignition switch in both run and accessory positions, all switches shall be on/off (20 amp.) and be programmable to lower amperage. Remote power connections to be under cab.		
1. Automatic circuit protection for switches.		
2. Back lit, and labeled rocker panel switches		
3. All switches are powered with provisions to label and identify individual switches for specific functions.		
<i>Note: Bidder must ensure that the control panel on all equipment associated with this purchase, are pre-wired and labeled uniformly.</i>		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
g. A round 7-conductor, cable shall be wired to the rear of the chassis and terminate into a standard 7 pole trailer connector with ABS. (Conventional Wiring)		
h. Body builder wiring to rear of frame, with stop, tail, turn, and marker lights circuits, ignition controlled auxiliary feed and ground for connection of body by supplier		
i. Marker lights to be LED and flush mounted in cab or sun visor (if required)		
6. <u>Air Cleaner</u>		
a. Shall be dual element, dry-type, with fresh air intake.		
b. An air cleaner restriction indicator shall be mounted on the dash.		
c. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
7. <u>Engine:</u>		
a. Engine shall have 275 hp, peak gross hp at 2000 rpm and 800 ft lbs torque at 1200 RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
b. Shall be equipped with an exhaust brake.		
c. Electronic engine controls shall have the following settings:		
1. Maximum road speed to be 65 mph.		
2. Cruise control speed to be 60 mph.		
3. Idle Set 650 rpm , Resume 1,000 rpm.		
4. Shall have idle bump up/down feature.		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
d. Shall be equipped with a minimum 1000 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
8. Engine Cooling System:		
a. Shall be equipped with a temperature controlled, air clutch fan drive.		
b. Radiator shall be a min. 506 sq. in. frontal area cross flow, with deaeration system, mounted above frame rails. To be filled with coolant.		
c. Antifreeze protection shall be at least -34 °.		
9. Engine Exhaust System:		
a. <u>Shall be a DOC & DPF Muffler Shall be a single undercab horizontal DPF & DOC and vertical tailpipe with 45° chrome tip out. CA shall not be reduced more than 3" by vertical Exhaust Pipe and shield.</u>		
10. Fuel Tank:		
a. Shall have a 50-gallon fuel tank.		
b. The tank shall be equipped with two non-skid, raised expanded metal steps.		
c. Shall be mounted on the left or right frame rail.		
d. Shall not extend past the back of the cab.		
11. Transmission:		
Shall be an Allison 3000 RDS 4 th Generation 6 Speed with transmission cooler.		
12. Axles and Suspension:		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
a. <i>Front Axle</i> shall be 14,000 lbs. (axle and suspension) with Stemco-type seals and grit guards or equal and heavy-duty double acting shock absorbers.		
b. <i>Rear Axle</i> shall be a Dana Spicer 23-090D or equal 23000 lb. Capacity and have a 31000 lb. Progressive suspension with an additional 4500 lbs. rated auxiliary spring and a gear ratio to allow 65-mph. Equipped with driver actuated control.		
13. <u>Steering System:</u>		
a. Shall have a Shepherd power steering system or equal.		
b. Steering wheel shall be 18 inches in diameter.		
c. Steering column shall be fully adjustable <u>both vertical and telescoping</u> .		
14. <u>Wheels and Tires:</u>		
a. <i>Front wheels</i> shall be Hub Pilot 8.25" Disc with 12R22.5 LRH steel belted Goodyear tubeless tires or equal. The center wheel hub shall have a thickness of at least .472 inches		
b. <i>Rear wheels</i> shall be Hub Pilot 8.25" Disc with Goodyear G-182 RSD, 11 R 22.5 LRG steel belted tires or equal. The center wheel hub shall have a thickness of at least .472 inches		
15. <u>Brake System:</u>		
a. Shall be a Bendix 4- channel or equal anti-lock series air brake system.		
b. Shall have self-adjusting "S" cam air brakes front and rear, with brake shields installed.		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
c. Shall have outboard mounted brake drums, with 16 ½ x 5-inch front with 24" long -stroke chambers		
d. All brake blocks shall be non-asbestos.		
e. Shall have 30 sq. in. MGM TR-TS long-stroke or equal rear brake chambers and 16 ½ X 7 rear drums.		
f. Shall have a 13.2 C.F.M. air compressor <u>minimum</u> .		
g. Shall have the Rockwell Wabco System Saver 1200 air dryer.		
h. Air tanks shall be mounted below the cab.		
i. To include provision for trailer towing, including tractor protection valve and hand control valve.		
<u>Options:</u>		
1. Any Premium or Standard solid cab color		
2. Frame options		
A. Stationary Grille		
B. 120,000 PSI Frame .375"		
80,000 PSI Frame .312		
C. Front frame extension (.438 min. thickness) Available with restrictions NOT for plow use post		
D. Chrome bumper		
E. Additional rear cross member for longer wheelbases		
F. Wheel bases over 197" (note up to 254" WB)		
3. Axle options		
A. 8,000 lb.Fr. axle option, include suspension and brakes		
A.1 12,000 lb Fr. Axle, Suspension, brakes. Incl 11R22.5 Tires.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
B. 10,000 lb. Fr. axle option, include suspension and brakes		
C. 17,500 lb. axle option, include 20,000 suspension (4000 Series)		
D. 21,000 lb. rear axle, without traction control		
E. 23,000 lb. rear axle, without traction control		
E1. 19,000 lb Rear Axle without Traction Control		
F. Lo- Profile configurations (include 8000 front and 17500-rear axle with 80,000-PSI Frame.) 4000 only.		
4. Brakes		
A. Hydraulic brakes, (omit 13.2 cfm compressor, Air dryer, air horns) (4000 Series Only)		
B. Delete trailer connections for air brakes with 7-way electrical to rear		
5. Exhaust		
A. Horizontal Exhaust (2007 restrictions apply on WB & Application)		
B. Exhaust Pac-Brake (credit to delete)		
6. Engines NON UREA UREA 285 HP –800 lb. ft Torque as supplied		
A. 210 hp w/ 520 torque (4000) replaces 195 hp		
B. 225 hp w/ 620 torque (4000) replaces 230 hp		
C. 245 hp w/ 660 torque (4000) hp replaces 250 hp		
7. Transmissions		
A. Allison 2000 Series w/ PTO provisions		
C. 10 speed Fuller manual transmission		
D. 6 speed Fuller manual transmission		
8. Cab and Electrical options		
A. 160 Amp Bosch Alternator with low speed high output properties		
(1) 270 Amp Leese Neville Alternator		

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
B. Manual reset circuit breakers		
C. Delete power module and in dash 6-switch panel for accessories		
D. Dual 50 gallon ILO single 50 gallon fuel tank or single 70 Gallon tank		
E. Standard rearview mirrors (Incl's Htd but no Moto & Clearance Lites)		
F. Air Suspension high back driver and fixed position passenger seat		
G. 1/3-2/3 passenger seat with storage under		
H. Power windows and locks Double cost for crew cab with four doors		
I. Provide 800 mhz radio accommodation package w/antenna base, bracket, mike clip and harness.		
J. Add CB equipment		
K. Delete Air conditioning		
L. Deluxe interior ILO Premium trim		
M. Extended cab with approx. 25" extension (Factory)		
N. Crew Cab (Factory) 4-Doors with rear bench seat and 3 Grab Hdls		
O. Engine Brake ILO Exhaust Brake		
P. Service manual for chassis on CD		
Q. Vin# specific parts manual for chassis on CD		
R. Diagnostic software and necessary cables for attaching to PC		
S. Provide generic radio wiring to header for customer installation		
T. Johnson Control ILO Exide or International Batteries		
U. Relocate switch controller inside cab		
V. Delete exterior visor		
W. T- Handle for Allison ILO Pad shifter		
X. Backup Alarm		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check if Meet or Exceed	Describe Offered Alternatives
Y. Truck Lite 44 Series LED taillights with Super 40 Backup light		
Z. Air suspension cab (required above 245 HP Engines)		
AA. Eaton Hybrid Drive System with various available engines		
BB. Eaton Hybrid Drive as AA. w/ePTO		
CC. PTO Controls Body Configuration Options: Remote Engine Control Boom & Outrigger Warnings Remote Engine Stop & Start		

SEGMENT B

Item 2

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
1. <u>Chassis, Load capacity and Measurements:</u>		
1. Chassis load rating shall be 64,000 lbs. (GVWR).		
2. 224" Wheelbase, 138" Usable CA		
3. Set Forward Axle configuration.		
2. <u>Frame:</u>		
1. The entire length of the frame rails shall be full depth .		
2. Frame rails heat treated alloy steel (110,000 psi yield); Minimum 12.000" x 3.250" x 0.250" with reinforcement outer "C" channel, heat treated alloy steel 12.560" x 3.500" x 0.250" <u>Both frame rails, from front to rear, shall be constructed with 120,000 psi steel, with a minimum section modulus of 30.00 and a minimum RBM of 3,600,000 in. lbs.</u>		
3. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
4. There shall be no holes or bolts in the top flange of the frame rails. There should be no holes full length on top flange		
5. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		
6. Shall have a steel front bumper, with two front tow loops or hooks accessible through the bumper.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
3. Cab and Related Equipment:		
1. Shall be an Aluminum cab with at least 18 inches of clear space between the driver and passenger seat. Door Hinges shall be continuous piano type. <u>Shall be a galvanized steel premium cab with at least 21 inches of clear space between the driver and passenger seats for future equipment mounting.</u>		
2. Exterior of the Cab shall be painted with 0311 Omaha Orange base coat/clear coat or equal.		
3. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
4. There shall be a protective screen, mounted behind the grill to protect the radiator.		
5. The unit shall be equipped with the following:		
a. Engine voltmeter		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater w/fresh air selection. The heater shall have a BTU rating of at least 30,000.		
f. Sun visors for both driver and passenger.		
g. Factory installed air conditioning.		
h. Visual and audible low oil pressure / high coolant temperature warning system.		
6. Dual, heated 6 x 16 inch (approximately) Stainless Steel rearview mirrors. Right side mirror shall be motorized. The mirrors shall be equipped with an 8-inch convex spot mirror, Mirror heads to be heated, and door mounted mirror brackets to be of breakaway design to minimize potential damage. To include a "look down" mirror on Right side.		
7. Shall be equipped with an air horn		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
8. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).		
9. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
10. The cab noise level shall not exceed 84 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
11. The cab interior package shall be Premium package level. This includes, increased insulation on the floor, and the engine cover.		
12. Shall be equipped with left and right egress / ingress assist handles.		
13. Shall be equipped with an AM/FM Radio.		
4. Seats		
1. Driver National 2000 model 195 air suspension, hi back, vinyl w/cloth insert, 2 arm rests, isolator, adjuster, 3 chamber lumbar support, 6 way front. Adjustable, 3-way rear cushion, 2-15 degree back angle adjustment, and vinyl suspension cover, adjustable side bolster, heated.		
2. Passenger National 2000 model 197 air suspension, hi back, vinyl w/cloth insert, 2 arm rests, isolator, adjuster, 3 chamber lumbar support, 6 way front. Adjustable, 3-way rear cushion, 2-15 degree back angle adjustment, and vinyl suspension cover, adjustable side bolster, heated.		
3. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors in red color.		
5. Fuel Tank:		
1. Shall have a single or dual 100 80-gallon capacity fuel tank.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
2. Shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the frame rail, under cab.		
4. Shall not extend past the back of the cab.		
6. <u>Electrical & Lighting Systems:</u>		
<i>Note: All chassis shall be continuously number and color-coded.</i>		
1. Alternator shall be a Bosh LH160 Brush type, 12 Volt 160 Amp. Capacity, Pad Mounted or Leece-Neville LBP2203H Brush type or equal, 12 Volt 160 Amp. Capacity, Pad Mounted or equal.		
2. Batteries shall have at least 1,900 cold cranking amps (CCA) and be maintenance-free.		
3. The battery box cover shall be constructed of a non-metallic reinforced material, to include a remote jump stud.		
4. The battery box shall be frame rail mounted, under cab.		
5. All cable ends shall be sealed, and equipped with rubber retainers and covers.		
7. A round 7-conductor, cable shall be wired to the rear of the chassis and terminate into a standard 7 pole trailer connector with ABS. (Conventional Wiring)		
8. Shall be equipped with halogen headlamps.		
<i>Note: Supplier splices into the factory wiring harness is unacceptable and may be grounds for bid rejection.</i>		
7. <u>Engine:</u>		
1. The engine shall have 400 hp at 2000 rpm, 1450lb Torque at 1200 rpm. 437 peak hp minimum. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Shall be equipped with an engine brake.		
3. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
b. Cruise control speed to be 65 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 650, Resume 1,000.		
e. Shall have idle bump up/down feature.		
4. Shall be equipped with a minimum 1500 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
8. <u>Air Cleaner</u>		
1. Shall be dual element, dry-type, with fresh air intake.		
2. An air filter restriction indicator shall be mounted on the dash; and it must indicate restriction for both elements.		
3. The air cleaner lid shall have release latches or thumbscrews for quick and easy access to the air cleaner.		
9. <u>Engine Cooling System:</u>		
1. Shall be equipped with a temperature controlled, air clutch fan drive. Manual fan override. Electric Switch on Instrument Panel, (Fan On With Switch On)		
2. Radiator shall be a cross flow, with deaeration system and coolant filter.		
3. Antifreeze protection shall be at least -34 °.		
10. <u>Engine Exhaust System:</u>		
1. Shall be a single cab mounted; vertical muffler and tailpipe, with bright finish turnout at approximately cab height.		
11. <u>Transmission</u>		
Shall be a 4000 RDS Allison 6-speed. To include Auxiliary transmission oil cooler.		
12. <u>Steering System:</u>		
1. Shall have a dual Shepherd power steering system or equal.		
2. Steering wheel shall be 18 inches in diameter.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
3. Steering column shall be fully adjustable. <u>Steering column shall be fully adjustable both vertical and telescoping</u>		
13. <u>Wheels and Tires:</u>		
1. <i>Front wheels</i> shall be Hub Pilot with 385/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
2. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G-182, 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches.		
14. <u>Axles and Suspension</u>		
1. <i>Front Axle</i> shall be 18,000 lbs. with Stemco-type seals and grit guards or qual.		
2. <i>Front Suspension</i> to be 18,000 lb. Multi-leaf springs with double acting shock absorbers.		
3. <i>Rear Axle</i> shall have a 46,000 lbs. rating with a gear ratio to allow 65-mph.		
Shall have fluid lubricated bearings, and magnetic trap drain plug		
4. <i>Rear Suspension</i> to be Hendrickson HMX460-54		
5. <i>Rear axle</i> to be equipped with an air operated, dash controlled, rear axle interlock, with an inter axle lube pump.		
6. Shall be equipped with driver-controlled traction in the front rear axle.		
15. <u>Brake System:</u>		
1. Shall be a Bendix or equal 4-Channel anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear, with shields installed.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
3. Shall have outboard mounted brake drums, with 16 ½ x 6-inch front drums and 16 ½ X 7 rear drums.		
4. Shall have 30 sq. In. MGM TR series or equal rear brake chambers, and the chambers shall be tilted in the upward position for paver operations.		
5. Shall have an 18.7 C.F.M. Cummins air compressor or equal Shall have at least a 15.9 CFM Capacity air compressor		
6. Shall have the Rockwell Wabco System Saver 1200 air dryer or equal.		
Options:		
1. Air Ride Suspension		
2. Various wheelbase and cab to axle configurations		
5. Twelve, (12) fourteen, (14) sixteen (16) and twenty (20) thousand pound front axles with corresponding suspension and tires.		
6. Optional rear suspensions, and rear axles <ul style="list-style-type: none"> a. Hendrickson HN suspension b. Chalmers suspensions. d. 40K rear Axle 		
7. Driver Controlled Diff. Lock FR & RR Rear Axle		
7.1 Delete Driver Controlled Diff.		
8. Power Windows, Door Locks		
9. Alternative Engines for this class of chassis: <ul style="list-style-type: none"> A. 2010 Federal Emission compliant or certified engines with the use of EGR technology B. 2010 Federal Emissions compliant or certified engines with the use of UREA and SCR technology. 		
10. Front frame extension		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
11. Set Back Front axle.		
12. Single Frame Rail options		
13. Aluminum Wheels		
16. Dual 80 gallon Fuel tanks.		
17. Aluminum fuel tank		
18. Single 60 Gallon fuel tank		
19. Deduct amount for the manufacturer's standard white paint.		
20. Delete Air Conditioning		
21. 13 Speed Transmission		
22. 18 speed Fuller Auto Shift		
23 18 Speed Manual Transmission		
24. Delete Trailer Connections		
25. Add for an exterior Sun Visor		
27. Vinyl seats		
28. Delete Radiator Guard		
30. Snow plow headlight wiring & Switch		
31. Backup alarm		
41. Stationary passenger seat.		
42. Deluxe interior trim		
43. Transmission retarder		
44. Snow Valve Switchable air cleaner intake		
45. Longer or shorter wheel base in 10 inch increments.		
47. Left side battery box location.		
48. Tractor Options: Cab controlled air slide Holland fifth wheel plate. The fifth wheel plate shall rise above the frame rails of the chassis by 7.6 inches. ¼ fenders & Flaps.		

02709 a2, Various Cab & Chassis -- including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
49. Tractor Options: Pro Tech model 10-1000 aluminum cab guard with chain binder holding locking brackets and a rear view window opening.		
50. Tractor Options: Work light mounted on each upper corners of the cab guard. The work lights shall be individually controlled within the cab.		
51. Steerable Lift Axle with a 13,500# rating\ Hendrickson Model Para lift with Split controls The tires shall be 255/70R22.5 mounted on 8.25x22.5" Steel hub piloted wheels		
52. Widest back window available		
53. 24" ground clearance package w/ temp mount fuel tank		
54. 11R24.5 Tires and wheels (rear)		
55. Service and Vin specific Parts Manual on CD.		
56. CB Accommodation Package		
57. Two Piece Clutch		
58. T-Handle Allison Shift Selector		
59. Truck-Lite 44 Series LED Taillights with Super 40 backup lights		

SEGMENT B**Item 3**

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
1. Chassis, Load capacity and Measurements:		
a. Chassis load rating shall be 37,000 lbs (GVWR).		
b. Wheel Base shall be 171"		
c. Cab to Axle (CA) shall be 96"		
d. Bumper to back of cab to be 102-107"		
e. To be set forward axle option		
2. Frame:		
a. The entire length of the frame rails shall be full depth including the manufacturers integral frame extension.		
b. Both frame rails, from front to rear, shall be constructed with 110,000 psi steel, with a minimum section modulus of 30.00 and a minimum RBM of 3,300,000 in. lbs.		
c. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
d. There shall be no holes or bolts in the top flange of the frame rails. There should be no holes full length on top flange.		
e. The left frame rail shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
f. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		
g. Shall have a formed steel front bumper, with two front tow loops or hooks accessible through the bumper.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
3. Cab and Related Equipment:		
a. Shall be a manufacturer's premium cab with at least 21 inches of clear space between the driver and passenger seat.		
b. Exterior of the Cab shall be painted with Sikkens basecoat/clear coat Omaha Orange 0311 or equal.		
c. Three-piece bonded hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
d. When the hood and fenders are tilted forward, the fixed position grill shall not come in contact with the front frame extension.		
e. There shall be a metal mesh protective screen, mounted behind the grill to protect the radiator.		
f. The unit shall be equipped with the following:		
1. Engine voltmeter		
2. Engine oil pressure gauge.		
3. Tachometer and Hour-meter.		
4. Engine coolant temperature gauge.		
5. High output heater w/fresh air selection. The heater shall have a 30,000 BTU rating.		
6. Dual Sun visors for both driver and passenger.		
7. Factory installed air conditioning with particulate filter and electronic auto protection for low refrigerant.		
8. Visual and audible low oil pressure/ high coolant temperature warning system.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
g. Dual, heated 7" x 15.75" with Integral 7.44" sq Convex. Bright finish rearview mirrors. Both side mirrors shall be motorized. The mirrors shall be equipped with minimum 8-inch heated convex spot mirrors. Both mirrors to be designed to break away when hit from front or rear to minimize damage to mirrors and door structure.		
h. Shall be equipped with an air horn mounted under cab.		
j. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).		
j. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
k. The cab noise level shall not exceed 84 dba inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
l. Shall be equipped with left and right egress / ingress assist handles. Additional Left side exterior handle with rubber insert, for safety.		
m. Shall be equipped with an AM/FM Radio, with weather band.		
n. Overhead molded plastic console, with dual storage pockets, radio mounting pocket with hold-down, electronic compass and outside temp display.		
o. Factory installed cab air suspension system.		
p. To have a factory installed exterior sun-visor painted to match cab.		
q. To include functional vent windows in cab.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
4. Seats:		
b. Both the driver and passenger seats shall be a cloth covered high back National air ride to include air lumbar supports. To have armrests on inside (toward center) of each seat.		
b. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors and red color.		
5. Electrical & Lighting Systems:		
<i>Note: All chassis lighting shall be conventional lighting (International lighting (DIN or European) is not acceptable). : Chassis wiring must be color-coded and continuously numbered.</i>		
a. Alternator shall be a Bosh LH160 Brush type, 12 Volt 160 Amp. Capacity, Pad Mounted or Leece-Neville LBP2203H Brush type or equal, 12 Volt 160 Amp. Capacity, Pad Mounted or equal.		
b. Batteries shall have at least 1,900 cold cranking amps (CCA) and be maintenance-free.		
d. The battery box cover shall be constructed of a non-metallic reinforced material to include a remote jump stud.		
d. The battery box shall be right side frame rail mounted.		
e. All cable ends shall be sealed, and equipped with rubber retainers and covers.		
f. Shall have a, programmable six-position auxiliary switch panel. They shall operate from the ignition switch in both run and accessory positions, all switches shall be on/off (20 amp.) and be programmable to lower amperage. Remote power connections to be under cab.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
1. Automatic circuit protection for switches.		
2. Back lit, and labeled rocker panel switches		
3. All switches are powered with provisions to label and identify individual switches for specific functions.		
<i>Note: Bidder must ensure that the control panel on all equipment associated with this purchase, are pre-wired and labeled uniformly.</i>		
a. A round 7-conductor, cable shall be wired to the rear of the chassis and terminate into a standard 7 pole trailer connector with ABS. (Conventional Wiring)		
b. Shall be equipped with standard generic round or rectangular halogen headlamps.		
c. Body builder wiring to rear of frame, with stop, tail, turn, and marker lights circuits, ignition controlled auxiliary feed and ground for connection of body by supplier		
d. Marker lights to be LED mounted in cab or sun visor (if required)		
6. <u>Air Cleaner</u>		
a. Shall be dual element, dry-type, with fresh air intake.		
b. A air filter restriction indicator shall be mounted on the dash.		
c. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
7. Engine:		
a. The engine shall have 300 hp peak gross hp at 2100 rpm and 1050 Torque at 1200 rpm. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
b. Shall be equipped with an exhaust brake.		
c. Electronic engine controls shall have the following settings:		
1. Maximum road speed to be 65 mph.		
2. Cruise control speed to be 60 mph.		
3. Idle Set 650 rpm , Resume 1,000 rpm.		
4. Shall have idle bump up/down feature.		
d. Shall be equipped with 1250 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
8. Engine Cooling System:		
a. Shall be equipped with a temperature controlled, air clutch fan drive.		
b. Radiator shall be a cross flow with deaeration. System to be filled with extended life coolant.		
c. Antifreeze protection shall be at least -34°.		
9. Engine Exhaust System:		
a. Shall be a single undercab horizontal DPF & DOC and vertical. Tailpipe with 90 45° chrome tip out. CA shall not be reduced more than 3" by vertical Exhaust Pipe and shield.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
10. Fuel Tank:		
a. Shall have a 70-gallon fuel tank.		
b. The tank shall be equipped with two non-skid, raised expanded metal steps.		
c. Shall be mounted on the frame rail.		
e. Shall not extend past the back of the cab.		
11. Transmission:		
a. Shall be an Allison 3000 RDS 6 Speed with transmission cooler.		
12. Axles and Suspension:		
a. <i>Front Axle</i> shall be 14,000 lbs. (axle and suspension) with Stemco-type seals or equal and grit guards, and heavy-duty double acting shock absorbers.		
b. <i>Rear Axle</i> shall be a Dana Spicer 23-130D or equal 23000 lb. Capacity and have a 31000 lb. Progressive suspension with an additional 4500 lbs. rated auxiliary spring and a gear ratio to allow 65-mph. Equipped with driver actuated traction control.		
13. Steering System:		
a. Shall have a Shepherd power steering system or equal.		
b. Steering wheel shall be 18 inches in diameter.		
c. Steering column shall be fully adjustable both vertical and telescoping.		
14. Wheels and Tires:		
a. <i>Front wheels</i> shall be Hub Pilot 8.25" Disc with 12R22.5 LRH steel belted Goodyear tubeless tires. The center wheel hub shall have a thickness of at least .472 inches.		

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
b. <i>Rear wheels</i> shall be Hub Pilot 8.25" Disc with Goodyear G182 RSD 11 R 22.5 LRG steel belted tires. The center wheel hub shall have a thickness of at least .472 inches.		
15. <u>Brake System:</u>		
a. Shall be a Bendix or equal 4- channel anti-lock series air brake system.		
b. Shall have self-adjusting "S" cam air brakes front and rear, with brake shields installed.		
c. Shall have outboard mounted brake drums, with 16 ½ x 5-inch front with 24" long – stroke chambers		
d. All brake blocks shall be non-asbestos.		
e. Shall have 30 sq. in. MGM TR-TS or equal long- stroke rear brake chambers and 16 ½ X 7 rear drums.		
f. Shall have a 13.2 C.F.M. air compressor.		
g. Shall have the Rockwell Wabco System Saver 1200 air dryer.		
h. Air tanks shall be mounted below the cab.		
i. To include provision for trailer towing, including tractor protection valve and hand control valve.		
<u>Options:</u>		
1. Various wheelbase and cab to axle configurations		
2. Twelve, (12)) sixteen (16) eighteen (18) and twenty (20) thousand pound front axles with corresponding suspension and tires.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
3. Optional rear suspensions, and rear axles a. Air Ride Suspension b. Chalmers suspensions. c. 21K 2 Speed Rear Axle d. 22K rear Axle f. 26K rear Axle g. 46K Rear Axle with Tandem option		
4. Delete amount for Driver Controlled Diff. Lock		
5. Power Windows, Door Locks		
6. Alternative Engines for this class of chassis: 6.1 MaxxForce 10 330HP / 1150 lb-ft Torque 6.2 MaxxForce DT 285 HP / 800 LB-Ft Torque		
7. Integral Front frame extension 7a. Front of Engine PTO Provisions		
8. Set Back Front axle.		
9. Provide 22 SM Single Rail Frame ILO 30 SM Frame		
10. Aluminum Wheels		
11. Extended Cab 11.1 Crew Cab with Bench Seat		
12. Diagnostic software and hardware to include all required cabling.		
13. Dual 70 gallon Fuel tanks. ILO Single		
14. Aluminum fuel tank		
15. Single 100 Gallon fuel tank 15a. 80 gallon fuel tank		
16. Deduct amount for the manufacturer's standard white paint.		
17. Delete Air Conditioning		
18. Delete Trailer Connections		
19. Add for an exterior Sun Visor		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meets or Exceeds	Describe Offered Alternatives
20. Vinyl seats		
21. Snow plow headlight wiring		
22. Backup alarm		
23. 160 AMP High output @ low RPM alternator		
24. Stationary passenger seat.		
25. Deluxe interior trim		
26. Automatic Transmission retarder		
27. Switchable Sno-Valve air intake		
28. Longer or shorter wheel base in 10 inch increments.		
29. Left side battery box location.		
30. Delete Exhaust Brake		
31. Engine Brake I/O Exhaust Brake		
32. Vocational 10 sp Transmission		
33. Manual Reset Circuit Breakers		
34. Relocate Remote Power Module In Cab		
35. Standard Heated Mirrors		
36. Power Windows and Door Locks		
37. CB Accommodation Package		
38. Generic 2-way radio Wiring		
39. Service and Parts Manuals on CD		
40. Delete Exterior Visor		
41. Clean CA Battery Box and Air Tank Configuration.		
42. T-Handle Auto Transmission Shift Lever		
43. Truck lite series LED Taillights with Super 40 B/U Light		
44. Additional Remote Power Module with additional set of six switches.		
45. Body Configuration Options: Remote Engine Control, Boom & Outrigger warnings, Remote Engine Stop & Start, PTO Controls		

SEGMENT B**Item 4**

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
1. Chassis, Load capacity and Measurements:		
a. Chassis load rating shall be 54,000 lbs (GVWR).		
b. Wheel Base shall be 195"		
c. Cab to Axle (CA) shall be 120"		
d. Bumper to back of cab to be 102-107"		
e. 40,000 lb rear axle with lube pump and HMX-400-52 Suspension		
f. To be set forward axle design.		
2. Frame:		
a. The entire length of the frame rails shall be full depth including the manufacturers integral frame extension.		
b. Both frame rails, from front to rear, shall be constructed with 110,000 psi steel, with a minimum section modulus of 30.00 and a minimum RBM of 3,300,000 in. lbs.		
c. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
d. There shall be no holes or bolts in the top flange of the frame rails. There should be no holes full length on top flange.		
e. The left frame rail shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
f. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		

g. Shall have a formed steel front bumper, with two front tow loops or hooks accessible through the bumper.		
3. Cab and Related Equipment:		
a. Shall be a manufacturer's premium cab with at least 21 inches of clear space between the driver and passenger seat.		
b. Exterior of the Cab shall be painted with Sikkens basecoat/clear coat Omaha Orange 0311 or equal.		
c. Three piece bonded hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
d. When the hood and fenders are tilted forward, the fixed position grill shall not come in contact with the front frame extension.		
e. There shall be a metal mesh protective screen, mounted behind the grill to protect the radiator.		
f. The unit shall be equipped with the following:		
1. Engine voltmeter		
2. Engine oil pressure gauge.		
3. Tachometer and Hour-meter.		
4. Engine coolant temperature gauge.		
5. High output heater w/fresh air selection. The heater shall have a 30,000 BTU rating.		
6. Dual Sun visors for both driver and passenger.		
7. Factory installed air conditioning with particulate filter and electronic auto protection for low refrigerant.		
8. Visual and audible low oil pressure / high coolant temperature warning system.		

02709 a2, Various Cab & Chassis – including Hybrids

g. Dual, heated 7" x 15.75" with Integral 7.44" sq Convex. Bright finish rearview mirrors. Both side mirrors shall be motorized. The mirrors shall be equipped with minimum 8-inch heated convex spot mirrors. Both mirrors to be designed to break away when hit from front or rear to minimize damage to mirrors and door structure.		
h. Shall be equipped with an air horn mounted under cab.		
k. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).		
j. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
k. The cab noise level shall not exceed 84 dba inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
l. Shall be equipped with left and right egress / ingress assist handles. Additional Left side exterior handle with rubber insert, for safety.		
m. Shall be equipped with an AM/FM Radio, with weather band.		
n. Overhead molded plastic console, with dual storage pockets, radio mounting pocket with hold-down, electronic compass and outside temp display.		
o. Factory installed cab air suspension system.		
p. To have a factory installed exterior sun-visor painted to match cab.		
q. To include functional vent windows in cab.		

4. <u>Seats:</u>		
c. Both the driver and passenger seats shall be a cloth covered high back National air ride to include air lumbar supports. To have armrests on inside (toward center) of each seat.		
b. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors and red color.		
5. <u>Electrical & Lighting Systems:</u>		
<i>Note: All chassis lighting shall be conventional lighting (International lighting (European or DIN) is not acceptable). Chassis wiring must be color-coded and continuously numbered.</i>		
a. Alternator shall be a Bosh LH160 Brush type, 12 Volt 160 Amp. Capacity, Pad Mounted or Leece-Neville LBP2203H Brush type or equal, 12 Volt 160 Amp. Capacity, Pad Mounted or equal.		
b. Batteries shall have at least <u>1,850</u> to 1,900 cold cranking amps (CCA) and be maintenance-free.		
c. The battery box cover shall be constructed of a non-metallic reinforced material to include a remote jump stud.		
d. The battery box shall be right side frame rail mounted.		
e. All cable ends shall be sealed, and equipped with rubber retainers and covers.		
f. Shall have a, programmable six-position auxiliary switch panel. They shall operate from the ignition switch in both run and accessory positions, all switches shall be on/off (20 amp.) and be programmable to lower amperage. Remote power connections to be under cab.		
1. Automatic circuit protection for switches.		
2. Back lit, and labeled rocker panel switches		

02709 a2, Various Cab & Chassis – including Hybrids

3. All switches are powered with provisions to label and identify individual switches for specific functions.		
Note: Bidder must ensure that the control panel on all equipment associated with this purchase, are pre-wired and labeled uniformly.		
a. A round 7-conductor, cable shall be wired to the rear of the chassis and terminate into a standard 7 pole trailer connector with ABS. (Conventional Wiring)		
b. Shall be equipped with standard generic round or rectangular halogen headlamps.		
c. Body builder wiring to rear of frame, with stop, tail, turn, and marker lights circuits, ignition controlled auxiliary feed and ground for connection of body by supplier		
d. Marker lights to be LED mounted in cab or sun visor (if required)		
6. <u>Air Cleaner</u>		
a. Shall be dual element, dry-type, with fresh air intake.		
b. A air filter restriction indicator shall be mounted on the dash.		
c. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
7. <u>Engine:</u>		
a. The engine shall have 300 hp peak gross hp at 2100 rpm and 1050 Torque at 1200 rpm. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
b. Shall be equipped with an exhaust brake.		
c. Electronic engine controls shall have the following settings:		
1. Maximum road speed to be 65 mph.		

2. Cruise control speed to be 60 mph.		
3. Idle Set 650 rpm , Resume 1,000 rpm.		
4. Shall have idle bump up/down feature.		
d. Shall be equipped with 1250-watt 110 volt block heater <u>of suitable capacity for engine size</u> , with the plug-in receptacle located on the left side under the driver's door.		
8. <u>Engine Cooling System:</u>		
a. Shall be equipped with a temperature controlled, air clutch fan drive.		
b. Radiator shall be a cross flow with deaeration. System to be filled with extended life coolant.		
c. Antifreeze protection shall be at least <u>-34°</u> .		
9. <u>Engine Exhaust System:</u>		
a. Shall be a single undercab horizontal DPF & DOC and vertical. Tailpipe with 90 <u>45°</u> chrome tip out. CA shall not be reduced more than 3" by vertical Exhaust Pipe and shield.		
10. <u>Fuel Tank:</u>		
a. Shall have a 70-gallon fuel tank.		
b. The tank shall be equipped with two non-skid, raised expanded metal steps.		
c. Shall be mounted on the frame rail.		
f. Shall not extend past the back of the cab.		
11. <u>Transmission:</u>		
a. Shall be an Allison 3000 RDS 6 Speed with transmission cooler.		

12. Axles and Suspension:		
a. Front Axle shall be 14,000 lbs. (axle and suspension) with Stemco-type seals or equal and grit guards, and heavy-duty double acting shock absorbers.		
b. Rear Axle shall be a Dana Spicer 23-130D or equal 23000 lb. Capacity and have a 31000 lb. Progressive suspension with an additional 4500 lbs. rated auxiliary spring and 40,000 lb with lube pump and HMX-400-52 Suspension with a gear ratio to allow 65-mph. Equipped with driver actuated traction control power divider lock.		
13. Steering System:		
a. Shall have a Shepherd power steering system or equal.		
b. Steering wheel shall be 18 inches in diameter.		
c. Steering column shall be fully adjustable both vertical and telescoping.		
14. Wheels and Tires:		
a. Front wheels shall be Hub Pilot 8.25" Disc with 12R22.5 LRH steel belted Goodyear tubeless tires. The center wheel hub shall have a thickness of at least .472 inches.		
b. Rear wheels shall be Hub Pilot 8.25" Disc with Goodyear G182 RSD 11 R 22.5 LRG steel belted tires. The center wheel hub shall have a thickness of at least .472 inches.		
15. Brake System:		

02709 a2, Various Cab & Chassis – including Hybrids

a. Shall be a Bendix or equal 4- channel anti-lock series air brake system.		
b. Shall have self-adjusting “S” cam air brakes front and rear, with brake shields installed.		
c. Shall have outboard mounted brake drums, with 16 ½ x 5-inch front with 24” long – stroke chambers		
d. All brake blocks shall be non-asbestos.		
e. Shall have 30 sq. in. MGM TR-TS or equal long- stroke rear brake chambers and 16 ½ X 7 rear drums.		
f. Shall have a 13.2 C.F.M. air compressor.		
g. Shall have the Rockwell Wabco System Saver 1200 air dryer.		
h. Air tanks shall be mounted below the cab.		
i. To include provision for trailer towing, including tractor protection valve and hand control valve.		
Options:		
1. Various wheelbase and cab to axle configurations		
2. Twelve (12), sixteen (16), eighteen (18), and twenty (20) thousand pound front axles with corresponding suspension and tires.		
3. Optional rear suspensions, and rear axles <ul style="list-style-type: none"> a. Air Ride Suspension b. Chalmers suspensions. c. 21K 2 Speed Rear Axle d. 22K rear Axle f. 26K rear Axle g. 46K Rear Axle with Tandem option 		
4. Delete amount for Driver Controlled Diff. Lock		
5. Power Windows, Door Locks		

02709 a2, Various Cab & Chassis -- including Hybrids

6. Alternative Engines for this class of chassis: NON UREA UREA 6.1 330HP / 1150 lb-ft Torque _____ 6.2 285 HP / 800 LB-Ft Torque _____		
7. Integral Front frame extension 7a. Front of Engine PTO Provisions		
8. Set Back Front axle.		
9. Provide 22 SM Single Rail Frame ILO 30 SM Frame		
10. Aluminum Wheels		
11. Extended Cab 11.1 Crew Cab with Bench Seat		
12. Diagnostic software and hardware to include all required cabling.		
13. Dual 70 gallon Fuel tanks. ILO Single		
14. Aluminum fuel tank		
15. Single 100 Gallon fuel tank 15a. 80 gallon fuel tank		
16. Deduct amount for the manufacturer's standard white paint.		
17. Delete Air Conditioning		
18. Delete Trailer Connections		
19. Add for an exterior Sun Visor		
20. Vinyl seats		
21. Snow plow headlight wiring		
22. Backup alarm		
23. 160 AMP High output @ low RPM alternator		
24. Stationary passenger seat.		
25. Deluxe interior trim		
26. Automatic Transmission retarder		
27. Switchable Sno-Valve air intake		

02709 a2, Various Cab & Chassis – including Hybrids

28. Longer or shorter wheel base in 10 inch increments.		
29. Left side battery box location.		
30. Delete Exhaust Brake		
31. Engine Brake ILO Exhaust Brake		
32. Vocational 10 sp Transmission		
33. Manual Reset Circuit Breakers		
34. Relocate Remote Power Module In Cab		
35. Standard Heated Mirrors		
36. Power Windows and Door Locks		
37. CB Accommodation Package		
38. Generic 2-way radio Wiring		
39. Service and Parts Manuals on CD		
40. Delete Exterior Visor		
41. Clean CA Battery Box and Air Tank Configuration.		
42. T-Handle Auto Transmission Shift Lever		
43. Truck lite series LED Taillights with Super 40 B/U Light		
44. Additional Remote Power Module with additional set of six switches.		
45. Eaton Hybrid Drive System including various available engines		
46. Eaton Hybrid Drive System including various available engines		
47. Body Configuration Options: Remote Engine Control Boom & Outtrigger warnings Remote Engine Stop & Start PTO Controls		

SEGMENT B**Item 5**

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
1. <u>Chassis, Load capacity and Measurements:</u>		
a. Chassis load rating shall be 66,000 lbs (GVWR).		
b. 213" wheelbase, 138" cab to axle, and 102-107" bumper to back of cab.		
c. To be set forward axle design		
2. <u>Frame:</u>		
a. The entire length of the frame rails shall be full depth.		
b. Both frame rails, from front to rear, shall be constructed with 120,000 psi steel, with a minimum section modulus of 30.00 and a minimum RBM of 3,600,000 in. lbs.		
c. The section modulus at the engine cut outs shall be at least 18.00, with an RBM of 2,000,000.		
d. There shall be no holes or bolts in the top flange of the frame rails. There should be no holes full length on top flange.		
e. The left frame shall be clear, between the fuel tank and the front hanger of the rear spring assembly.		
f. Cross-members shall not be riveted to the frame rails, however cross-member components may be riveted to form a cross-member assembly.		
g. Shall have a formed steel front bumper, with two front tow loops or hooks accessible through the bumper.		
3. <u>Cab and Related Equipment:</u>		

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
a. Shall be a galvanized steel <u>or aluminum</u> premium cab with at least 21 inches of clear space between the driver and passenger seats for future equipment mounting.		
b. Exterior of the Cab shall be painted with 0311 Omaha Orange base coat clear coat or equal.		
c. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
d. There shall be stone guard protective screen mounted behind the grill to protect the radiator.		
e. The unit shall be equipped with the following:		
1. Engine voltmeter		
2. Engine oil pressure gauge.		
3. Tachometer, and Hour-meter.		
4. Engine coolant temperature gauge.		
5. High output heater w/fresh air selection. The heater shall have a BTU rating of at least 30,000.		
6. Sun visors for both driver and passenger		
7. Factory installed air conditioning with particulate filter and auto protection for low refrigerant.		
8. Visual and audible low oil pressure / high coolant temperature warning system.		
f. Dual heated 7" x 15.75" with Integral 7.4" Convex bright finish rearview mirrors. The passenger side mirror shall be motorized. The mirrors shall be equipped with a 8-inch convex spot mirror.		
g. Shall be equipped with an under cab mounted air horn, for equipment clearance.		
h. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a HD wiper motor(s).		
i. The wiper linkage shall be a heavy-duty formed linkage. Pressed steel linkage is not acceptable.		

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
j. The cab noise level shall not exceed 80 to 84 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
k. The cab interior package shall be an International Premium package or equal. This includes, increased insulation on the floor, and the engine cover.		
l. Shall be equipped with left and right egress / ingress assist handles.		
m. Shall be equipped with an AM/FM Radio with weather band.		
n. To include cab air suspension.		
4. <u>Seats:</u>		
a. Seat shall be a cloth covered high back National air ride seat, with air lumbar		
b. Passenger seat shall be a cloth covered high back National high back, air suspension matching driver.		
c. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors, red in color.		
5. <u>Fuel Tank:</u>		
a. Shall have a 70 gallon fuel tank		
b. The tank shall be equipped with two non-skid, raised expanded metal steps.		
c. Shall be mounted on the frame rail.		
d. Shall not extend more than 6 inches past the back of the cab or otherwise inhibit the installation of mounted bodies or equipment.		
6. <u>Electrical & Lighting Systems</u>		
<i>Note: All chassis shall be continuously number and color-coded.</i> Alternator shall be a Bosh LH160 Brush type, 12 Volt 160 Amp. Capacity, Pad Mounted or Leece-Neville LBP2203H Brush type or equal, 12 Volt 160 Amp. Capacity, Pad Mounted or equal.		

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
a. Shall be a 12-volt system.		
b. Batteries shall have at least 1,900 cold cranking amps (CCA) and be maintenance-free.		
c. The battery box cover shall be constructed of a non-metallic reinforced material.		
d. The battery box shall be frame rail mounted		
e. All cable ends shall be sealed, and equipped with rubber retainers and covers.		
f. Shall have a, six-position switch panel with the following They shall operate from the ignition switch in both run and accessory positions, and all switches shall be on/off		
1. Automatic circuit protection.		
2. Back lit, and labeled rocker panel switches		
g. Bidder must ensure that the control panel on all equipment associated with this purchase are wired and labeled uniformly.		
h. A round 7-conductor, cable shall be wired to the rear of the chassis and terminate into a standard 7 pole trailer connector with ABS. (Conventional Wiring)		
i. Shall be equipped standard style halogen headlamps.		
j. Supplier splices into the factory wiring harness is unacceptable and may be grounds for bid rejection.		
7. Engine:		
a. The engine shall have 385 hp peak gross hp at 2100 rpm and 1450 Torque at 1200 rpm. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
b. Shall be equipped with a compression engine brake.		
8. Electronic Engine Controls (Shall have):		
a. Maximum road speed to be 65 mph.		
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 650, Resume 1,000.		

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
e. Shall have idle bump up/down feature.		
f. Shall be equipped with 1500 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
9. <u>Air Cleaner:</u>		
a. Shall be dual element, dry-type, with fresh air intake.		
b. An air filter restriction indicator shall be mounted on the dash; and it must indicate restriction for both elements.		
c. The air cleaner lid shall have release latches or thumbscrews for quick and easy access to the air cleaner		
10. <u>Engine Cooling System:</u>		
a. Shall be equipped with a temperature controlled, air clutch fan drive.		
b. Radiator shall be a cross flow, aluminum core, with deaeration system.		
c. Antifreeze protection shall be at least -34°.		
11. <u>Engine Exhaust System:</u>		
a. Shall be a single horizontal DPD & DOC under cab and vertical pipe.		
b. The end of the exhaust pipe shall have a 45° chrome tip out, positioned approx. 118" from the ground to the highest point of the tip out when the truck is empty. CA shall not be reduced by more than 3" by Vertical Exhaust pipe and shield.		
12. <u>Transmission:</u>		
a. Shall be an 4000 RDS Allison series 6-speed. To include an auxiliary trans. oil cooler.		
13. <u>Steering System:</u>		
a. Shall have a dual Shepherd power steering system or equal.		

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
b. Steering wheel shall be 18 inches in diameter.		
c. Steering column shall be fully adjustable both vertical and telescoping.		
14. Axles and Suspension:		
a. <i>Front Axle</i> shall be 20,000 lbs. with Stemco-type seals or equal and grit guards, and heavy-duty double acting shock absorbers, with 20,000 lb. Multi-leaf springs.		
b. <i>Rear Axle</i> shall be 46,000 lb capacity, and have a Hendrickson HMX460-54 or equal suspension with a 46,000 lbs. rating and a gear ratio to allow 65-mph.		
c. Shall have a lube pump and an air activated rear axle power divider lock with indicator light.		
15. Wheels and Tires:		
a. <i>Front wheels</i> shall be Hub Pilot with 385 425/65R 22.5 LRJ steel belted Goodyear tubeless tires.		
b. <i>Rear wheels</i> shall be Hub Pilot with Goodyear G-182, 11 R 22.5 LRG steel belted tires. The center hub shall have a thickness of at least .472 inches		
16. Brake System:		
a. Shall be a Bendix anti-lock series or equal air braking system.		
b. Shall have self-adjusting "S" cam air brakes front and rear, with shields installed.		
c. Shall have outboard mounted brake drums, with 16 ½ x 6-inch front drums and 16 ½ X 7 rear drums.		
d. All brake blocks shall be non-asbestos		
e. Shall have 30 sq. In. MGM TR-T series rear brake chambers, or equal and the chambers shall be tilted in the upward position for paver operations.		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
f. Shall have at least a 15.9 CFM Capacity air compressor		
g. Shall have the Rockwell Wabco System Saver 1200 air dryer		
h. Air tanks shall be mounted below the cab.		
i. To have trailer air routed to rear section of frame for body companies completion		
Options:		
1. Driver Controlled Diff. Lock		
2. Power Windows, Door Locks		
3. Alternative Engines for this class of chassis: 2010 Federal Emissions compliant or certified engines with the use of UREA and SCR technology.		
4. Integral front frame extension. Full "C" Reinforcement		
5. Set Back Front axle.		
6. 22 SM Single Frame Rail ILO 30 SM Frames		
7. Aluminum Wheels		
8. Extended Cab and Crew cab configurations.		
9. Diagnostic Engine software and hardware to include all required cabling.		
10. Dual 70 gallon Fuel tanks.		
11. Aluminum fuel tank		
12. Single 100 Gallon fuel tank 12.1 80 Gallon Fuel Tank		
13. Deduct amount for the manufacturer's standard white paint.		
14. Delete Air Conditioning		
15. 18 Speed Auto shift 15.1 18 Speed Manual		
16. 13 Speed Manual Transmission 16.1 Vocational 10 Speed Transmission		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
17. Delete Trailer Connections		
18. Add for an exterior Sun Visor		
19. Vinyl seats		
20. Delete Bug Guard		
21. Exterior Sun Visor		
22. Air Ride Suspension		
23. Various wheelbase and cab to axle configurations		
24. A 24-inch ground clearance package with a clean CA.		
25. Twelve, (12) fourteen, (14) sixteen (16) and eighteen (18) thousand pound front axles with corresponding suspension and tires.		
26. Optional rear suspensions, and rear axles a. Chalmers suspensions. b. 46K rear Axle		
27. Factory Installed Snow plow headlight wiring & switch		
28. Backup alarm		
29. 135 AMP High output @ low RPM alternator		
30. Stationary passenger seat.		
31. Deluxe interior trim		
32. Transmission retarder		
33. Switchable Snow Valve air intake		
34. Longer or shorter wheel base in 10 inch increments		
35. Left side battery box location.		
36. Tractor Options: Cab controlled air slide Holland fifth wheel plate. The fifth wheel plate shall rise above the frame rails of the chassis by 7.6 inches. ¼ fenders & Flaps		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check if Meets or Exceeds	Describe Offered Alternatives
37. Tractor Options: Pro Tech model 10-1000 aluminum cab guard with chain binder holding locking brackets and a rear view window opening		
38. Tractor Options: Work light mounted on each upper corners of the cab guard. The work lights shall be individually controlled within the cab		
39. Tractor Options: Two Echo 6665 A strobe lights mounted on the outboard side of each work light		
40. 11R24.5 Tires and wheels (rear)		
41. Service and Vin specific Parts Manual on CD.		
42. Relocate Switch Controller inside cab		
43. CB Accommodation Package		
44. Two Piece Clutch		
45. T-Handle Allison Shift Selector		
46. Truck-Lite 44 Series LED Taillights with Super 40 backup lights		
47. Steerable Lift Axle with a 13,500# rating Hendrickson Model Para lift with Split controls. The tires shall be 255/70R22.5 mounted on 8.25x22.5" Steel hub piloted wheels.		
48. Body Configuration Options: Remote Engine Control, Boom & Outrigger warnings, Remote Engine Stop & Start, PTO Controls		

F.3 SPECIFICATION REQUIREMENTS

**SPECIFICATIONS SHEETS MUST BE RETURNED WITH BID OR MAY RESULT IN
BID REJECTION**

SEGMENT C

Hybrid Item 1

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
I. General:		
1. The intent of this specification is to describe the WSDOT requirements for a Traffic Control Vehicle.		
II. Chassis:		
1. Shall have a 25,500 lb. GVWR with a wheel base of 175 inches and a Cab to axle of 108 inches. .		
2. Bidders shall provide optional wheelbase and Ca combinations.		
III. Frame:		
1. Shall be 80,000-psi steel.		
2. The frame rails will be treated with an anti corrosive compound, to curtail rusting and deterioration, from exposure to salt and anti icing materials.		
3. There shall be no holes or bolts in the top flange of the frame rails		
4. Frame cross-members shall be fastened to the frame rails using huck bolts.		
5. Shall have a <u>dark</u> black steel front bumper, of sweptback design, with two front tow loops or hooks accessible through the bumper.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
III. Cab and Related Equipment:		
1. Shall be a manufacturer's premium air suspension cab with at least 21 inches of clear space between the driver and passenger seat.		
2. Hood and fenders shall tilt forward to a stable position and allow full and unrestricted access to the engine compartment.		
3. There shall be a metal stone guard mounted behind the grill to protect the radiator.		
4. The unit shall be equipped with the following:		
a. Engine voltmeter.		
b. Engine oil pressure gauge.		
c. Tachometer and Hour-meter.		
d. Engine coolant temperature gauge.		
e. High output heater with fresh air selection. The heater shall have a 30,000 BTU output rating.		
f. Sun visors for both driver and passenger.		
g. Factory installed air conditioning.		
h. Shall have a digital, and illuminated outside temperature indicator.		
i. Visual and audible low oil pressure/high coolant temperature warning system.		
5. Shall have dual heated and motorized 6-x 16-7 x 15.75 inch rearview mirrors. The mirrors shall be equipped with an 8 to 10 inch convex spot mirror and extendable to 102-inches in width.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
6. Shall be equipped with an air horn.		
7. Shall be equipped with cowl mounted, electric, intermittent, windshield wipers, to include a heavy-duty wiper motor(s).		
8. The wiper linkage shall be heavy-duty formed linkage. Pressed steel linkage is not acceptable.		
9. The cab noise level shall not exceed 84 dB (A) inside the cab with windows closed, measured at 1800 RPM and at normal road speed.		
10. Shall be equipped with interior and exterior left and right egress / ingress assist handles. The passenger side doesn't need the exterior due to the exhaust pipe.		
11. Shall have interior overhead molded console with pockets on each side.		
12. Shall have a factory installed exterior sun visor.		
13. Shall be equipped with an AM/FM Radio with Weather Band.		
IV. Radio Installation:		
1. The cab shall be outfitted with a header pocket to accommodate an EF Johnson radio. (Part # 242-97-55-111.) The measurements of the radio are as follows:		
a. Width 7 ³ / ₁₆ inches.		
b. Length 8 ⁵ / ₁₆ inches.		
c. Thickness 2 ¹ / ₈ inches.		
2. The radio shall be located in a manner that allows the operator to read the LCD without detracting from road visibility. The radio shall be accessible by the		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
operator and be within arms reach of an average person.		
3. When installed; the face of the radio shall not extend further than one inch out of the pocket.		
4. Within the radio pocket, there shall be a radio-mounting bracket, (Enclosure PF-130 or equal) which will accept the EF Johnson radio. The radio shall have the ability to be removed and re-installed without removing the header panel.		
5. To the left of the radio pocket and as close as possible to the radio, a grounded microphone-mounting clip shall be installed.		
6. On the exterior of the cab roof, there shall be a Larson NMO-K-DS-FME antenna base. The specific mounting location shall provide the antenna with at least 18 inches of clear area around the antenna base.		
7. The roof mount antenna base shall be sealed and capped with a protective cover for shipping.		
8. The antenna cable shall extend to the EFJ radio mount plus 6 inches of additional cable		
9. Above the rear window and centered in the cab, shall be a functional two-way radio speaker for the EF J radio.		
10. Shall have a dedicated and labeled 15-amp constant duty (fused) power circuit for the EFJ Radio.		
11. Connected to the 15-amp EFJ dedicated radio power circuit shall be a power wire (EFJ Part# 023-9750-010 or equal) extended to radio mount plus 15 inches of additional wire.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
12. Shall have a sensing circuit for the EFJ radio. The circuit shall be a fused 3-amp and switched through the ignition switch and active in the run or accessory positions.		
13. Connected to the 3-amp EFJ radio sensing circuit shall be a sense wire (EFJ Part # 023-9750-011) or equal extended to the radio mount plus 15 inches of additional wire.		
14. All wiring associated with the EF Johnson radio will be continuous with no splices or wire gauge change.		
15. Shall have the manufacturers standard CB radio package to include an OEM speaker located in close proximity to the operator.		
16. Each mirror bracket will be outfitted with a CB radio antenna base.		
<u>V. Seats</u>		
1. Both the driver and passenger seats shall be a cloth covered high back National air ride to include air lumbar supports and armrests.		
2. Both seats shall have compatible; three point type seat belts with shoulder strap, and retractors.		
<u>VI. Fuel Tank:</u>		
1. Shall have a 50-gallon fuel tank.		
2. The tank shall be equipped with two non-skid, raised expanded metal steps.		
3. Shall be mounted on the left frame rail <u>or</u> as per the manufacturer's location.		
4. Shall not extend past the back of the cab.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
VII. Electrical & Lighting Systems:		
1. All chassis lighting shall be conventional lighting (International lighting is not acceptable). <u>An example of International lighting is amber turn signals. This is unacceptable.</u>		
2. Shall be a 12-volt system with a 160 amp alternator.		
3. All power distribution boxes, and fuse boxes will be mounted inside the cab. In the event the manufacturer cannot mount the power distribution box(s) inside, the manufacturer will warranty each box for eight years.		
4. Batteries shall have at least <u>1,850</u> 1,900 cold cranking amps (CCA) and be maintenance-free.		
5. The batteries shall rest in a plastic tray, and be protected by an additional plastic cover, covering all of the batteries. This cover shall be secured by thumbscrews or wing nuts.		
6. The battery box shall be mounted, beneath the passenger side door <u>or as per the manufacturer's location.</u>		
7. All battery cables exiting the battery box shall be routed through rubber grommets.		
8. Shall have a programmable in dash six position switch panel. They shall operate from the ignition switch in both run and accessory positions and all switches shall be on/off and configured as follows: All six switches shall be on the same row		
a. Automatic circuit protection		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
b. Back lit, rocker panel switches		
9. Bidder must ensure that the control panel on all equipment associated with this purchase are wired uniformly.		
10. A round 7-conductor, cable shall be wired from the main electrical panel, to the rear of the chassis and terminate into a standard 7-pole trailer connector with ABS. (Conventional Wiring).		
11. The connection points on the 7-wire plug will be sealed and watertight.		
12. Shall be equipped halogen headlamps.		
13. Shall have the manufacturer's standard, LED tail lights and assemblies to include backup lights.		
14. The programmable chassis controller shall be located inside the chassis cab behind the passenger seat and elevated approximately and 3 to 4 inches above the cab floor. <u>Shall be equal to the International DLB controller.</u>		
15. Supplier splices into the factory wiring harness is unacceptable and may be grounds for bid rejection.		
VIII. Engine:		
1. Shall be a diesel, engine, with at least 255-gross hp at 2300rpm. The engine shall deliver 660 ft lbs Torque at 1400RPM. The engine shall meet all Federal Emissions Standards including 2010 Requirements.		
2. Electronic engine controls shall have the following settings:		
a. Maximum road speed to be 65 mph.		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
b. Cruise control speed to be 60 mph.		
c. Automatic Idle shut down to be 10 minutes.		
d. Idle, Set 675, Resume 1,000.		
e. Shall have idle bump up/down feature.		
3. Shall be equipped with 1000 1250 watt 110 volt block heater, with the plug-in receptacle located on the left side under the driver's door.		
IX. <u>Air Cleaner:</u>		
1. Shall be dual element, dry-type, with fresh air intake.		
2. An air cleaner restriction indicator shall be mounted on the dash and it must indicate restriction for both elements.		
3. The air cleaner lid shall have release latches for quick and easy access to the air cleaner.		
X. <u>Engine Cooling System:</u>		
1. Shall be equipped with a temperature controlled, air clutch fan drive.		
2. Radiator shall be a cross flow with de-aeration system.		
3. All coolant hose clamps shall be Constant Torque.		
4. Antifreeze protection shall be at least -34°.		
XI. <u>Engine Exhaust System:</u>		
1. Shall be a single horizontal muffler and		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
vertical pipe.		
2. Shall have an under cab mounted horizontal DPF and DOC		
3. The end of the exhaust pipe shall have a 45-degree tip out, positioned approximately 118 inches from the ground to the highest point of the tip out when the truck is empty.		
XII. Transmission:		
1. Shall have an Eaton Hybrid (EH-8E306A-UP} 6-Speed Automated Manual, Hybrid Drive Unit,		
2. The transmission shall have Electronic Shift Controls, with Electronic -PTO Capability.		
3. The transmission electronic controller shall be located inside the chassis cab located in a location that is protected as much as possible from corrosion.		
4. The clutch shall be a n (Eaton Fuller 365MM} non-adjustable, with a 660 lb-ft capacity, for Hybrid Vehicle use		
5. Shall be equipped with a variable sound backup alarm <u>that has at least two distinct sounds.</u>		
XIII. Steering System:		
1. Shall have a power steering system.		
2. Steering wheel shall be 18 inches in diameter.		
3. Steering column shall be fully adjustable <u>to include tilt and telescopic.</u>		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XIV. Axles and Suspension:		
1. Front: 8,000 lbs. with Stemco or equal type seals with replaceable window and components.		
2. Rear: 17,500 lbs. with a gear ratio to allow a maximum of 65-mph at maximum engine RPM and a magnetic trap drain plug.		
3. Shall have a 20, 000 lb. progressive suspension		
XV. Wheels and Tires:		
1. Front and rear wheels shall be hub piloted 7.50 in., 10-hole disk wheels for 245/75 R22.5 LRG tires. Shall meet FMVSS 120 for tubeless radial tires.		
2. Tires shall be 245/75R22.5 LRG 14 ply steel belted tires.		
3. The front tires shall be G1549 Goodyear.		
4. The rear tires shall be G124 M+S Goodyear.		
XVI. Brake System:		
1. Shall be a Bendix anti-lock series air braking system.		
2. Shall have self-adjusting "S" cam air brakes front and rear, with shields installed.		
3. Shall be 15 in. x 4 in. front brakes.		
4. Shall be 16.5in. X 7in. rear brakes.		
5. All brake blocks shall be non-asbestos.		
6. Shall be sealed internal breathing design.		
7. Shall have 30 sq. in. MGM TR-TS series		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
rear brake chambers		
8. Shall have a 13 to 18 C.F.M. air compressor, with intake plumbed to the filtered side of the air cleaner.		
9. Shall have the Rockwell Wabco System Saver 1200 air dryer.		
10. The air tank drain will be accessible from outside the frame rails.		
11. A trailer air supply line supply shall be routed to a distribution block.		
12. Chassis shall be equipped with a trailer hand control valve, and a tractor protection valve.		
XXVI. Exterior Finish		
1. The exterior finish is expected to be superior craftsmanship. There shall be no welding scale, rough, sharp edges or corners.		
2. The chassis shall be coated with 2 mils dry automotive quality primers, with an additional base coat/clear coat of Sikkens (4039) or DuPont (7044) National Safety Yellow.		
XXVII. Publications:		
1. Each unit shall be delivered with an operator's manual.		
2. Bidders shall provide the Service and Parts Manuals for this unit, as annotated below.		
<u>1</u> Parts Manual		
<u>1</u> Service Manual		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
XXVIII Option Pricing		
1. 120,000 PSI Frame .312"		
2. Bolted Front Frame Ext.		
3. Chrome bumper		
4. Additional rear cross member for longer wheelbases		
5. Wheel bases over 197"		
6. Rear axle options <ul style="list-style-type: none"> a. 23,000 lb: rear axle, without traction control b. 26,000 Lb c. 19,000 Lb. d. 21,000 Lb. 		
7. Front axle options <ul style="list-style-type: none"> a. 10,000 LB b. 12,000 LB c. 14,000 LB 		
8. Driver controlled traction Diff.		
9. Air suspension on rear axle		
10. Delete trailer air brake connections		
11. Engine Options <ul style="list-style-type: none"> a. 210 HP w/560 Torque b. 225 HP w/560 torque c. 245 HP w/645 Torque 		
12. Transmission Options Eaton Hybrid EH-8E306A-UP} 6-Speed Automated Manual, Hybrid Drive Unit, With Electronic Shift Controls, without E-PTO Capability.		
13. Add Additional Switch Pack & Power Module		
14. Dual 50 gallon ILO single 50 gallon fuel		

02709 a2, Various Cab & Chassis – including Hybrids

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
tank		
15. Air Suspension high back driver and fixed position passenger seat		
16. 1/3-2/3 Driver passenger seat with storage under stationary drivers seat		
17. Power windows and locks		
18. Delete 800 mhz radio accommodation package w/antenna base, bracket, mike clip and harness		
19. Delete CB equipment		
20. Delete Air conditioning		
21. Extended cab with approx. 25" extension		
22. Crew Cab 4-Doors and rear bench seat		
23. Provide application of door decals		
24. Diagnostic engine software and necessary cables for attaching to PC		
25. Diagnostic transmission software and necessary cables for attaching to PC		
26. Delete exterior visor		
27. Hybrid Options		
a. Auto Thermal Cab Heat		
b. GVWR Options: 33,000 Pounds _____ 37,000 Pounds _____ 40,000 Pounds _____ 54,000 Pounds _____		
c. Battery Location Options: Temporary Mount		
d. Power Electric Carrier TEMP Mount		
e. 70- gal. Fuel Tank		
h. 4x4 Drive Option		

Specification Requirements	Check If Meet or Exceed	Describe Offered Alternatives
i. Auxiliary Power Generator (AC Load Driven from Hybrid Battery Source) 5KW		

END END END



State of Washington
DEPARTMENT OF GENERAL ADMINISTRATION

Office of State Procurement


Rm. 201 General Administration Building, P.O. Box 41017 • Olympia, Washington 98504-1017 • (360) 902-7400
<http://www.ga.wa.gov>

Solicitation Amendment

IFB Reference #: 02709
Title: Various Cab & Chassis – including Hybrids
Amendment Number: 3
Date issued: 8/20/2009

The above referenced solicitation is amended as follows:

Purpose:	The purpose of Amendment No. 3 is to; 1) Segment A, Item 5- XVI.7 Brake System - currently states “Shall have an 18 to 20 C.F.M. air compressor with intake plumbed to the filtered side of the air cleaner.” REPLACE WITH: “Shall have a <u>15</u> to 20 C.F.M. air compressor with intake plumbed to the filtered side of the air cleaner.” 2) Include WSDOT “dash switch” locations
	<u>This Amendment must be submitted with the bid. All other Terms, Conditions, and Specifications remain unchanged.</u>

Previously scheduled opening date and time August 27, 2009 2:00pm, PST	New opening date and time N/A
 Corinna Cooper Signed (Procurement Coordinator)	8/20/2009 <u>8/20/09</u> Date signed

Bidder must complete the following and return with bid:

Company:

Authorized Representative:

Signature

Date

1000

1000

WSDOT "Dash Switch" Locations



WSDOT SWITCH POSITIONS

SHIFT LIGHT	ENGINE BRAKE (ON-OFF)	ENGINE BRAKE 1-2-3	PDL LOCK	BLANK SPARE	LOW HYD WARN LIGHT & BUZZER
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WORK LIGHT	ALT. FLASHER	BEACON LIGHT	BLANK (DITCH LIGHT)	BLANK (WING LIGHT)	BLANK (FUTURE DLB PROGRAM SWITCH)
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